JOINT COMMITTEES WORKSHOP

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

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(2004 Energy Report Update)        )
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CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY BLDG.

COASTAL ROOM, SECOND FLOOR

1001 I STREET

SACRAMENTO, CALIFORNIA

FRIDAY, AUGUST 27, 2004

9:29 A.M.

Reported by:
Alan Meade
Contract No. 150-04-002

COMMISSIONERS PRESENT

John Geesman, Presiding Member

James Boyd, Associate Member

Jackalyne Pfannenstiel, Associate Member

ADVISORS PRESENT

Melissa Ann Jones

Michael Smith

Chris Tooker

Darcie Houck

Timothy Tutt

STAFF PRESENT

Sandra Fromm

Marwan Masri

Jim Hoffsis

Pamela Doughman

Rasa Keanini

ALSO PRESENT

Manuel Alvarez
Southern California Edison Company

Frank W. Harris
Southern California Edison Company

John Berlin
Northern California Power Agency

Jane Dunn Cirrincione
Northern California Power Agency

ALSO PRESENT

Joseph Langenberg
Central California Power

Mike Pretto
Silicon Valley Power
City of Santa Clara

Jim Woodruff
Southern California Edison Company

Les Guliasi
Pacific Gas and Electric Company

Steven Kelly
Independent Energy Producers Association

Kari Smith
PowerLight Corporation

Nancy Rader
California Wind Energy Association

Jane Hughes Turnbull
Peninsula Energy Partners
League of Women Voters of California

Raymond P. Juels
Bear Valley Electric
Southern California Water Company

H.I. Bud Beebe
Sacramento Municipal Utility District

Jack Pigott
Calpine Corporation

Doug Hansen
San Diego Gas and Electric
Southern California Gas Company

Steve Munson
Vulcan Power Company
Sylvan Power Company

George Wiltsee
Ingersoll Rand

ALSO PRESENT

David L. Arthur
Redding Electric Utility
City of Redding

Randy S. Howard
Los Angeles Department of Water and Power

John Galloway
Union of Concerned Scientists

Frank J. Soriano
Sutter Securities Incorporated

Mark J. Skowronski
Solargenix Energy

Don Smith
Office of Ratepayer Advocates

I N D E X

	Page
Proceedings	1
Opening Remarks	1
Sandra Fromm, Assistant Project Manager	1
Presiding Member Geesman	3
Overview - Accelerated Renewable Energy Development Draft Staff White Paper	4
Presentation - Renewable Energy Program	5
General Comments	15
Roundtable Discussions	53
Chapter 4: Policy Issues for Central Station Renewables Development	54
Publicly owned electric utilities renewable portfolio standard (RPS) plans	55
Individual utility targets	88
Afternoon Session	135
Roundtable Discussions - resumed	135
Chapter 4 - resumed	135
Possible use of unbundled renewable energy certificates (RECs) in future RPS solicitations	136
Barriers to reaching 20 percent by 2010	173
Chapter 5: Key Policy Issues for Distributed Generation Photovoltaic Energy Systems	192
Performance-based incentives	192
PV in new homes	212
Net metering caps	216

I N D E X

Page

Closing Remarks 220

Presiding Member Geesman 220

Schedule 220

Adjournment 221

Certificate of Reporter 222

P R O C E E D I N G S

9:29 a.m.

MS. FROMM: Good morning; I'm Sandra Fromm. I'm the Assistant Program Manager for the 2004 Integrated Energy Policy Report. I'd like to welcome you here today and thank you for your participation in this workshop.

Today's workshop will be on renewables, which is one of three topics in the 2004 update. The other two are aging power plants and transmission.

A draft summary Committee document will be released September 15th, after which we'll have a roadshow around the state. The final release of the Committee document will be October 20th, followed by consideration by the full Commission on November 3rd.

You can participate in today's workshop by calling in at 1-800-857-9600, passcode 21142. Or you can send in email comments to ieprhearing, that's one word, ieprhearing@energy.state.ca.us.

If you're here in the room today and you'd like to speak, you can fill out a blue card, which is located at the back of the room. We also have a comment sheet for those who don't want to come up and speak but would like to leave some written comments.

We also would welcome any written comments following the workshop, and we'd like to receive those by September 7th. All the presentations made today will be posted on the web. And there are paper copies of staff's presentation at the back of the room, along with today's agenda and the draft staff white paper.

When speaking today if you could speak directly into the microphone that would help the court reporter take down an accurate record. Also if you could provide your name, spell it and provide the court reporter with a business card, that would be helpful.

If there is a fire drill if you could exit the building and meet at the park they'll let us know when we can come back into the building.

If we're here through lunch there's a snack shop down on the first floor, and some food places, cafes, along the streets around here and in the park. The restrooms are out the hearing room door to your left.

And I'd like to thank you again for participating today, and I'm turning the workshop over to the Committee now.

PRESIDING MEMBER GEESMAN: Thank you, Sandra. I'm John Geesman, the Energy Commission's Presiding Member of its Renewables Committee and Integrated Energy Policy Report Committee. This is a joint workshop of both Committees.

To my immediate left is Commissioner Pfannenstiel, the Second Member of the Renewables Committee. To her left is Commissioner Boyd, the Second Member of the Integrated Energy Policy Report Committee, and the Presiding Member of the 2003 Integrated Energy Policy Report Committee. What we're doing here today is an update of a particular section of the 2003 report.

To his left is his Advisor, Mike Smith. To Mike's left is Tim Tutt, Commissioner Pfannenstiel's Advisor. And to Tim's left is Darcie Houck, Commissioner Boyd's Advisor.

To my right is Melissa Jones, my Advisor. To her right is Chris Tooker, also my Advisor. As you can see, we're very well advised.

What we want to do is provide a general staff presentation; then solicit any general comments that any members of the public may have regarding the report. Then we've got a couple of roundtable discussions which we'll have, I think, at this long rectangular table in the front on particular chapters of the report.

We're trying to converge comments and discussions on the content of the report, itself. I know there are a number of other issues associated with renewable development. Some of those we will take up in other proceedings. Others we will wrap up in our 2005 Integrated Energy Policy Report cycle which is just now getting under way.

So, with that, let me turn it over to the staff. Marwan.

MR. MASRI: Thank you, again, Commissioner Geesman. Pam Doughman, who is the principal author of this report will give an overview of what's in the report, a brief overview summary.

We are really here to hear from the parties on what the staff has already put out, all the information, and what we have to present. And to the extent that you can offer us comments on what's in the report, as Commissioner Geesman said, to help the Committee then develop its report after this workshop, we really highly appreciate that.

Pam's presentation will be very brief because really the staff presentation, the detailed one, is the report, itself. And from there we'll go on to the roundtable discussion.

DR. DOUGHMAN: My name's Pam Doughman; I'm a member of the staff of the renewable energy program, and I'll be giving a brief overview of the accelerated renewable energy development draft staff white paper.

The purpose of the draft staff white paper is to provide an update to the renewable energy topics in the 2003 Integrated Energy Policy Report. And in the 2003 energy report there was a recommendation that the RPS be accelerated and extended to statewide RPS of 20 percent by 2010.

Another recommendation was that in the 2004 energy report update we would develop post-2010 goals and individual targets considering resource mix, transmission, availability of cost effective renewable energy.

We held workshops on May 4th and June 8th to solicit public comments and public input to help us develop this report.

This slide provides a summary of the

topics covered in the draft staff white paper. There's a background chapter. In the background chapter we talk about the RPS procurement process, PV incentive programs and plans to incorporate DG into the RPS.

In the trends and outlook chapter we talk about existing renewables and estimated needs for a statewide RPS. And that is assuming reaching 20 percent by 2010.

In the next chapter, chapter 4, we talk about policy issues for central station renewables including goals for the period after 2010; possible recalibration of RPS targets for individual utilities; renewable energy certificates, in particular the possible use of unbundled renewable energy certificates; and challenges and risks to achieving the state's renewable development goals.

In the fifth chapter we talked about key policy issues for distributed PV generation, including over-subscription, performance based incentives, PV in new homes, and net metering caps.

Regarding post-2010 statewide goals the 2003 energy report calls for development of more ambitious post-2010 statewide RPS goals. And in the report, in the draft staff white paper, staff notes that public funds can catalyze private investment if used to send clear signals for long-term plans.

We also note that the 20 percent by 2010 plans send a signal for the next six years, but transmission research and development and project planning may take longer than six years.

Most municipal utilities plan for 20 percent by 2015 or 2017 with the exception of SMUD and IID. SMUD and IID plan to reach 20 percent sooner than the others.

This slide shows, compares the RPS plans of IID, SMUD and LADWP. And it shows that IID plans to reach 20 percent renewables by 2007. And this would be about less than 1000 gigawatt hours per year. And that SMUD plans to reach 20 percent RPS by 2011, which would be, staff estimates that it would be a little over 2000 gigawatt hours by 2010. And LADWP plans to reach 20 percent renewables by 2017, and this would require about 5000 gigawatt hours total renewables.

This graph shows the estimated renewables to reach 20 percent by 2010 statewide.

Okay, so the top line here indicates the path or the trajectory that the state would need to follow to move from a little over 30,000 gigawatt hours per year in 2003 up to about 57,000 gigawatt hours total renewables by 2010 statewide.

And many publicly owned electric utilities are planning to include large hydroelectric power in their RPS programs. This gray line or light purple line indicates that the amount that could possibly be met by large hydro instead of renewables as defined under SB-1038 or SB-1078. So essentially by 2010 it would mean that rather than the whole state being at 20 percent by 2010, we would be at about 17 percent.

Regarding individual utility targets, the draft staff white paper notes that San Diego Gas and Electric is likely to need to import renewable energy. And that SCE has potential, if developed, to export to SDG&E, PG&E and others.

SCE indicates that it will reach 20 percent renewables this year. SCE has shown leadership in renewables development and SCE's continued participation in accelerated renewable development is needed. A revised SCE target may be beneficial to the state's goals to accelerate renewable energy development. And PG&E and SDG&E target of 20 percent appears reasonable. Staff does not suggest change.

Staff suggests the possible exception for small retail sellers that may be having difficulty meeting the RPS.

This slide compares technical potential to 20 percent by 2010 needs by region. So the dark green column indicates the estimate of gross technical potential that was published in the renewable resources development report last year. Now this is a gross technical potential estimate; it has not been filtered for economically attractive renewables.

But this gives some indication if all of the utilities, both investor-owned utilities and publicly owned electric utilities, achieve 20 percent by 2010, this is the total amount of renewables that would be developed to meet growing electricity sales in northern California. We can see that's a pretty sizable proportion of the gross estimated technical potential for northern California.

In southern California this includes all of southern California north of San Diego County.

We see quite a different story. About 10 percent of the gross technical potential would be developed. And in San Diego County we see that quite a large portion of the gross technical potential would be developed.

Now, of course, an alternative to this, there's no requirement that utilities located in northern California purchase renewable energy that is located in northern California. Of course they can import from other areas of the state or from other areas in WEC region.

Regarding unbundled renewable energy certificates, a few comments here. Eleven states currently use unleveled RECs in the RPS. And voluntary markets for unleveled RECs are small, but growing.

WREGIS will track RECs in the Western Electricity Coordinating Council area. The use of RECs in California for investor-owned utilities is limited to bundled RECs only. And this means that the renewable attributes would be sold together with the electricity generated from a renewable energy facility.

For ESPs and CCAs, it's to be decided. And for publicly owned electric utilities staff is looking for more information and greater clarity here. Staff understands, for example, that in the Imperial Irrigation District they're planning to meet their RPS with construction of a geothermal plant, but at this point in time they do not have or are not planning to purchase the renewable energy certificates together with the electricity from the plant. So there may be some different policies among the different types of load serving entities. And we would like further clarification there.

Of course, there are some advantages and disadvantages of renewable energy certificates, and we'll discuss this further in the roundtable.

This slide lists a number of barriers to 20 percent by 2010. For example, transmission availability to obtain access to renewable energy and meet RPS targets, a number of very concentrated resources of renewable energy do not currently have access to adequate transmission.

Permitting for wind turbines may be delayed in some areas until steps are taken to prevent or mitigate avian deaths. And permitting and financing for some technologies in some areas may be delayed. And certainly that needs to be in place to meet 20 percent renewables by 2010.

And as was mentioned in the 2003 IEPR, advocacy of public goods charge funds is something that we are continually looking at, and plan to after each RPS solicitation.

Policy issues for PV. There are four policy issues covered in the draft staff white paper. Three of them are listed on the slide. Over-subscription of PV incentive programs. The white paper notes that without changes in program design or funding level, incentives for PV in IOU service areas cannot be maintained at current subscription levels.

Regarding performance based incentives, a pilot program is to be developed for use in 2005. And we have a number of questions that we'd like to talk about, or that we'd like to discuss in the roundtable on this topic.

PV in new homes. More than 130,000 new single-family homes per year are built in California. About 500 of these new homes include PV. And policy in this area is in flux.

Policy issues for PV, the fourth one, is the net meter cap. And here the draft staff white paper comments that the San Diego Gas and Electric cap is 19 megawatts, or one-half of 1 percent in 2004 peak load equates to about 19 megawatts. But San Diego has a regional goal of 50 megawatts. Assuming recent growth rates continue, San Diego Gas and Electric could reach the cap by 2006; and PG&E could reach it by 2008; Edison by 2013.

The cap may need to be increased to avoid dampening PV development in California.

This graph was in the draft staff white paper, and it just shows that one-half of 1 percent of peak for various utilities. The purple columns here total to about 80 megawatts. That's at the end of June for this year in the state.

And Los Angeles Department of Water and Power is just here for comparison purposes. The net metering caps do not apply to LADWP. But here we can see that San Diego Gas and Electric is getting close to the cap.

And I should note that the cap is like a minimum, it could be thought of as a minimum portion of vegetables that you must eat before you can go on. Of course, you're welcome to eat more than that.

Okay, discussion questions. The first roundtable is on chapter 4, policy issues for central station renewables development. And the second roundtable will be on chapter 5, key policy issues for distributed PV generation.

And please note that we have a one-page handout on the table in the back. And the handout lists all the questions for each discussion. The questions for chapter 4 are on one side; questions for chapter 5 are on the back. And the questions are also posted online for the people who are calling in or going to send us email comments.

Next steps. This is what Sandra said earlier. Eventually we'll have a draft Committee document September 15th; another set of hearings around the state; and moving on towards November, transmitting the final document to the Governor.

For more information, of course, this is the website at the Energy Commission regarding the 2004 energy report update. Thank you.

Let's see, I'll give it back to Marwan. Here you go.

MR. MASRI: Thank you, Pam. I'll give it back to Commissioner Geesman. We are, I think, ready to move to the roundtable on this. According to our agenda now we go to -- unless you want to take comments first.

PRESIDING MEMBER GEESMAN: Let me leave that to the discretion of the audience. I've got three blue cards here. We can either have general comments now, or proceed directly to the roundtable, which will be a little more focused discussion. Anyone caring to make general comments, if you could raise your hand?

Bud Beebe. And if you'll introduce yourself for the benefit of the court reporter and also provide him with a business card after you're done, it would be appreciated.

MR. BEEBE: Certainly. Is this working now?

PRESIDING MEMBER GEESMAN: Yes.

MR. BEEBE: Good morning, my name is Bud Beebe. I work for the Sacramento Municipal Utility District. And I wanted to take just a short time this morning to review some of the things that SMUD sees occurring in this process.

We've been active in both this process and the previous processes, and I hope -- and I'll also be in the roundtable discussions later concerning acquisition of renewable energy in our portfolio.

But in reading this white paper we

notice again that there seems to be some lingering interest in the possibility of incorporating publicly owned utilities resource acquisition of renewables into the broader process that's used currently by the investor-owned utilities.

And we just wanted to make sure that you understood, as SMUD, we think that the process of having publicly owned utilities be in the separate process is an ongoing and important thing for us. It really allows us to, we think, do a better job.

There is a paper I've distributed and it's been docketed that talks about a couple of specific issues that we have that underscore the need to keep publicly owned utilities separate from investor-owned utilities as we go forward in the specific process of acquiring renewables.

And they include such things as we believe that price increases in publicly owned utilities could be an unintended consequence of requiring us to begin to be included in the IOU process.

As you know, investor-owned utilities have a cap or escape valve for higher prices in renewables due to certain limitations in the public good funding aspect of that process. And because AB-1890 set up a separate set of requirements for publicly owned utilities in establishing their public good funds, it could well lead publicly owned utilities to have to increase their rates as a direct result of having to meet a specific goal. It's probably explained a little better in the thing but I don't want to take everybody's time here to go through that.

Secondly, mandating a cap on publicly owned utilities may actually result in fewer renewables ultimately being obtained because as we go forward with the process it is, in fact, going to be a fairly diverse group of renewables that is ultimately going to meet our goals in the future.

This isn't a going after a single item, or everybody getting behind the ball to acquire a single 20 percent goal in renewables. It's a very complicated process. And if the publicly owned utilities are thrust into a place where they must require this stuff, and it all has to be done by a certain date, we feel that that ultimately will fail. And we in California will ultimately wind up with fewer renewables rather than more.

PRESIDING MEMBER GEESMAN: Now, Bud, are you speaking for SMUD or on behalf of all of the municipal utilities --

MR. BEEBE: Oh, this is just SMUD's comments. And, you know that's --

PRESIDING MEMBER GEESMAN: I guess that's why I find it so puzzling. You're projecting that you're going to hit 20 percent in 2011.

MR. BEEBE: Yes.

PRESIDING MEMBER GEESMAN: No interference, guidance, mandates or anything else from the state. I think that if all of the municipal utilities were able to accomplish similar things there wouldn't be this sense in Sacramento that a much stronger state push needs to be made.

I think that the arguments that some of the smaller utilities present in terms of lack of load growth or contractual obligations, to me, are very good points. And I think that we ought to work out some form of exemption or waiver for them.

But for jurisdictions like the City of Los Angeles, I think it's been pretty clear that nothing other than a strong push, not just from state government, but from their citizens, as well, is required to get them with the program.

And I guess I have a little bit of a hard time hearing your remarks and thinking of it from a SMUD context. You don't seem to have any problem meeting the goals that the state has set. What am I missing?

MR. BEEBE: Well, thank you very much for noting that we're well on the road to meeting those goals. But, frankly, inside of SMUD one of the things that allows us to advance strongly towards meeting those goals is knowing that we can have a certain flexibility in how we do this.

SMUD does not purport to speak for all publicly owned utilities on this issue. CMUA is a more eloquent voice on that, and we'll leave that to them. But, we, at SMUD, need to assure that thoughts about including publicly owned utilities within the formal process that has been established for the investor-owned utilities are likely to lead to, we feel, inadequate reaching for that goal. It would really tie our hands in a way that we just don't want to see.

And we see in this white paper again that the staff continues to talk about including investor -- publicly owned utilities within the investor-owned process in certain ways.

So we just wanted to underscore that we feel it's really necessary for SMUD to maintain a local perspective. And I think it would be wrong, too, to say that SMUD is free of goals that are statewide; that SMUD is free of the programs that we establish statewide.

We participate in this process and we believe that we promote a healthy dialogue, both with our local customers, and with the people who set state policy on energy, to be a part of this renewables acquisition.

So we are a part of it in a partnership part, but it would hurt Sacramento and our ability to establish and develop new renewables if we were forced into a, in particular, this investor-owned utility process that has been established by the various legislative and regulatory bodies.

PRESIDING MEMBER GEESMAN: Well, let me tell you my reference point. I track the Public Policy Institute of California's surveys fairly closely. I know that their most recent one, this past June, showed that 90 percent of all surveyed Californians felt that the utilities should double their reliance on renewable energy sources over the course of the next decade.

In 2003 that number was 82 percent. I think in 2002 it was 80 percent. As you know, the energy air is a pretty contentious area with the public, pretty difficult to get agreement on anything.

So when state government sees that level of consensus with the level of intensity that the public in California has communicated to us on the development of renewable sources, we feel a certain obligation to make it happen.

That applies to the investor-owned utilities, it applies to the municipal-owned utilities. And as your industry is fond of pointing out to us, because of your local control you are very responsive to the public.

So, I suspect quite strongly your citizens are no different than the respondents to those statewide polls. And I think that those in the municipal utility industry that have not yet picked up that message will do so shortly. I think you see those changes going on right now at the City of Los Angeles.

MR. BEEBE: That may well be true. We are listening and we do intend to both remain engaged in this process, and to show you with our actions that we are doing our part.

PRESIDING MEMBER GEESMAN: Well, I thank you for your comments. And I also thank you for SMUD's performance over the years. I think you've been a real inspiration to utilities, both municipal and investor-owned.

And I think the message I want to convey is we're not going away. We're going to make certain that this happens.

MR. BEEBE: Fine. And I will be participating in the roundtables.

PRESIDING MEMBER GEESMAN: Thank you.

COMMISSIONER BOYD: Bud, --

MR. BEEBE: Yes, sir.

COMMISSIONER BOYD: -- I just want to second what Commissioner Geesman said. As I listen to you, my old friend who I've known for a long, long time, I thought this is not the Bud I know. Somehow or another you just didn't convince me with your arguments. You just didn't seem to have your heart in it. Therefore, I assume you were speaking for the collective, not for the individual.

But, in any event, I, too, want to

commend SMUD. And I just want to hope that today is some strange aberration. I just think that we're not trying to roll munis into the IOU category. We're trying to have a statewide approach where everybody is, you know pulling together. And I think you really want to do that, so I appreciate where SMUD's coming from.

MR. BEEBE: Thank you for your insightful comments.

(Laughter.)

PRESIDING MEMBER GEESMAN: Anybody else want to make general comments before we get into the specifics? Jane Turnbull for the League of Women Voters.

MS. TURNBULL: Thank you, Commissioners Geesman, Pfannenstiel and Boyd. The League of Women Voters of California is very pleased to be here today to participate in these proceedings. We appreciate the fine work that the staff has done in preparing the white paper and the provocative questions they have developed to clarify a number of challenging issues.

We note that the staff has prepared this document on the assumption that the renewables portfolio standard is intended to be a statewide standard applicable to all electricity markets in the state. The League agrees.

Given the geographic specificity of renewable resources across the state and differences in load growth projections of individual utilities, it is evident that a system of unbundled renewable energy certificates, RECs, will be needed if the portfolio standards are to be met in an equitable way.

We do have concerns about the development of renewable energy in the northern counties. And ask that the out-of-state utilities that serve that part of the state not be able to use renewable energy generated out of state to meet their California obligations.

Furthermore, we urge that power from a hydro facility with a capacity larger than 30 megawatts not be included under the RPS, and thus not create RECs.

The remarkable abundance of renewable resources in southern California is both a blessing and a challenge. The disparity between the potential for development of all forms of renewable generation in this particular part of the state, and in northern California and San

Diego County, suggests a need to revisit the current 20 percent by 2010 RPS target for all power providers.

Our position is that if differential targets are contemplated the process must be equitable for all parties. Creation of tradeable RECs might or might not be an answer to this challenge.

Financing the additional transmission needed to move power from identified wind, solar and geothermal sites also must be considered.

Staff have raised the issue of possible environmental justice concerns being created by the use of unbundled RECs. At this point we don't perceive this as a real problem, particularly if a process of long-range, integrated regional planning of energy facilities is adopted.

Nor do we see unbundled RECs increasing the likelihood of market manipulation so long as both the Energy Commission and the Western Electricity Coordinating Council have effective, transparent tracking procedures in place.

We believe that RECs will encompass values that extend beyond the RPS requirements. There will be a market for unbundled RECs per se, but that value will not be realized only at the time of the trade. RECs could also represent the intrinsic external values associated with a particular renewable facility. Thus they could become a sort of currency for acknowledging externalities, both environmental and performance benefits.

Our thoughts are not well developed at this time, but we think that there might be some way of using RECs as a vehicle for establishing a carbon credit commodity, premium pricing for peaking energy and/or a credit for reduced need for transmission expansion.

The League feels strongly about the importance of looking beyond 2010. Wind power in the Tehachapi area, geothermal in the Salton Sea area are the identified low-hanging fruit. Additional solar-thermal and low-speed wind options are mentioned in the text of the report. But there's no timeline for feasible future development.

Furthermore, biomass options are largely ignored, yet those offer an incentive to reduce the threat of disastrous fires caused by fuel loading in our forests. And to reduce environmental problems associated with managing agricultural and local community wastes. Again, this speaks to the importance of long-term planning.

Historically the League has supported subsidies for renewable energy, particularly rooftop solar. This year, however, because of the exceptional budget situation across all program areas in California we have pulled back from wholehearted support.

Moreover, we believe the overall benefits to be realized for the use of rooftop solar should become the best argument for its adoption. Thus we support a performance-based incentive rather than a capacity-based incentive.

We believe that utilities could craft business plans that would make rooftop solar installations a good business endeavor for them. Or perhaps each utility could ask a smaller business entity to take on the challenge in their behalf.

Several weeks ago I participated in a meeting with a mix of renewable developers and venture capitalists. One of the conclusions that came out of that meeting was at least these individuals don't want to be dependent upon legislatively defined subsidies. We know that performance-based incentive programs represent real challenges. But it's in all of our best interests to make them happen.

New rules for distributed generation merit broad-based consideration. We don't believe the utilities have looked seriously at the system benefits they could realize with broader application of efficient DG. On the other hand, if DG is only small, natural gas-fired turbines with high heat rates, we don't think it would be worth much time or effort.

The League supports net metering just as we support real-time pricing. We certainly feel that homeowners who install rooftop solar should receive some benefit for the peaking power or other benefits they provide the grid system. At this time there is no process to put values on ancillary benefits of self generation that may help the overall reliability and stability of the grid. We hope in the future that there may be ways to value those benefits.

For now, net meter generation is a very small part of the total generation, but it provides an excellent opportunity to explore the interaction between the supply and demand side of power generation. We hope that this interaction will continue.

Thank you for having this workshop today.

PRESIDING MEMBER GEESMAN: Thank you, Jane. Anyone else for general comments? Steven Kelly.

MR. KELLY: Thank you, Commissioners. Steven Kelly with the Independent Energy Producers Association. And I do plan to participate in the roundtable, so I have some responses to those specific questions.

But just as a general rule, I just want to kind of follow up on the previous discussions and emphasize how important it is from a statewide perspective that there be some consistency in the application of the RPS across the state. To insure the integrity of the program and to ease the management of that program.

And I'm not necessarily arguing that the munis need to be incorporated into the specific details of the RPS that applies to the IOUs. I have always consistently raised concerns about the complexity of that process.

But as to the issue about definitions and what qualifies for renewables, and goals and stretch goals, and those kinds of things, I do think it is vitally important for the integrity of this program that there be consistency be applied to various load-serving entities that are going to be subject to and looking at renewable development.

So I just want to emphasize that, because I think if we end up in a situation where different definitions apply for compliance to RPS, not only instate, but across the country, there will be confusion about what is actually happening in California. And I think that will be a detriment to our program, and it will make it harder for the Legislature to appreciate what's actually occurring.

So I just wanted to make those comments.

PRESIDING MEMBER GEESMAN: Thank you, Steven. Other general comments? Kari.

MS. SMITH: Thank you. My name is Kari Smith; I'm with PowerLight Corporation and I'll also participate in the workshop, so I'll keep these general comments general.

First I wanted to say that I thought it was an excellent report. Sometimes you get these reports and you sort of dread reading them, but as I got into it I found it was really stimulating and well written. And so, thank you very much; I found it very useful and up to date and provided a lot of very pertinent information.

I would like to encourage the CEC to focus on a discussion of commercial PV, as well as residential PV. I noted in the introduction it's presented as a discussion of the entire PV market, but then the focus question really targeted the residential market.

And I understand that the Governor has made a big push for residential, but, you know, commercial does represent half of the market in California. And I think it's in our interests to best advise the Administration and the Legislature on the entire PV market. Particularly since commercial systems really do provide the confidence for, you know, the early adopters provide confidence for future buyers of PV, and also for the investment community. And that's really what we're looking for, I'm sure -- well, part of what we're looking for.

And I'm sure many of you saw the Fortune magazine that came out recently that did profile the photo of a large commercial system on Toyota. So those are the types of sort of high visibility projects that really help push the entire market in addition to the residential, which is also very important.

The other thing I wanted to note, just generally, is I really appreciated the discussion of RECs and the discussion of both tradeable RECs on the open market, and as RECs apply to the RPS. And look forward to working both with the CEC and the PUC on how to preserve and integrate PV RECs in the market.

And I appreciate the discussion of currently RECs are bundled in terms of RPS compliance, and there's some discussion by the utilities to acquire unbundled PV RECs without payment, but also unbundled PV RECs to meet their RPS obligations, which according to current definition of RECs really is impossible because the PV-generated electricity is used onsite. So I just wanted to bring that to all of your attention and appreciate the treatment in the report.

Thanks.

PRESIDING MEMBER GEESMAN: Thank you, Kari. In the back.

DR. ARTHUR: My name is Dave Arthur; I'm with the City of Redding. First I'd like to thank the Commission for pursuing the integrated plan. I think that's the single most important thing that we haven't done enough of in the past, that we're doing now.

Because it, first of all, addresses all of the interrelated parts that at the end of the day will determine whether we have economic and reliable power that's deliverable to where the people actually want to consume it. And I think you're doing a great service to the state by putting the pieces together.

Secondly, I want to indicate that the City of Redding is very much sympathetic with the goals in the renewable area; maybe not for all the same reasons. We have looked at the potential costs of continued reliance on natural gas and what those prices might be if we continue to only rely on natural gas. Share the view that as a state we need to begin to broaden and diversify beyond natural gas or we're going to find ourselves in a fairly serious economic problem.

Having said that, I think we take some exception to the analytics that have been presented. We think that they probably have underestimated, at least at today's levels, the cost implications to the consumers, particularly in areas that are not fortunate enough to have easy access to some of the preferred renewable alternatives such as the Salton Sea and the Tehachapi Mountains.

As you probably know, the City of Redding is about five miles from what is now considered a bad renewable resource, large hydro. We are perplexed as to how 30 megawatts of hydro is good and 31 megawatts of hydro is bad. We think what it does indicate is the fact we've probably adopted the wrong target.

And so we would strongly suggest let's let the past be the past. Let's not go through the artificial argument of saying that large hydro is bad. I think anyone here would leap at the opportunity if there really were new large hydro opportunities. The reality is there are not. And so let's not argue about whether it is or it is not renewable, and let's focus on what percentage of the growth and replacement energy that the state needs will come from renewable.

I think that will address the concerns of the renewable industry, which is we need people to buy our products. And I think with the right standard we would have a market for those.

It will remove the need to artificially distinguish what is a good renewable and what is a bad renewable. Going forward we will work from the opportunities that are there.

And now I'd like to talk about the problems of the small utility like the City of Redding. The City of Redding is attempting to do what it can within its very significant limitations.

We have started to put some demonstration PVs on public buildings. We are in construction building an ice facility to shift peak usage to offpeak. And we're doing that at our airport.

We have persistently tried to develop what we are told would be the most northerly latitude solar-thermal project in the world.

What we have run into is that the technology is proprietary for this solar-thermal project. There consists of one firm in the world that makes the proprietary technology. And they priced their product based on what they think government subsidies will tolerate. They don't price the product based on cost; they price the product based on the size of government subsidies that they think are out there.

And so we need assistance in trying to find ways to find more competition so that we can actually afford to buy the solar-thermal technology that we think will work.

Additionally, we have made several trips down to observe the Arizona Public Service demonstration facilities in which they're attempting to take all known or most of the known solar technologies and actually evaluate them to find out what it is that they actually produce. Not what somebody hypothetically thinks might happen, but what actually does happen.

So that when we make our little decisions we can do so with the knowledge of what might actually be the result. And so we're continuing to try and do that.

We are very concerned that if we adopt a uniform standard, and if we, with all due respect to a previous speaker, if we arbitrarily conclude that renewables developed in one location are somehow good, and renewables developed in another location are somehow bad, the state boundary being it, the fact of the matter is Redding is much closer to the northwest than it is to the Salton Sea. For anyone who has driven the length of California, I think you can appreciate this particular distinction.

And we're also very concerned with the fact that in the report there is tacit recognition of the transmission issues. I had the occasion to have a good friend come by who had the job of evaluating these technologies for a northwest utility, and I made the innocent comment that wind, for example, should be a piece of cake for the northwest because of the amount of hydro. And you could just store the wind in the hydro system. He said that's dead wrong.

He said the issue of load following and load shaving is huge and hasn't even started to receive the kind of attention it's going to need if we are to turn something that sounds like a good idea into something that will result in a reliable, cost effective source of energy.

In the resource adequacy hearings the

issue of what is the capacity value of wind, for example, or the capacity value of PVs came up, because in another forum people are held accountable for their capacity, not the energy. And if it doesn't count, as in the case of wind, it will account in a very small way, you have to go out and buy something else in addition to the energy you've procured from the renewable, which can have phenomenal costs.

So it is our hope that as we proceed we will not only look at technical feasibility, we will look at economic reality, we will look at the way in which the resource integrates with an actual integrated grid. And then we will make choices that in the end do achieve our goal, which is more renewable energy, less dependency on natural gas, but do so in a way that doesn't bankrupt the state.

And I will just leave with the admonition that I'm fond of hearing that we can't make things worse. Well, one of the great achievements of AB-1890 was we proved you can. And let's not have a good intention result in a very bad outcome.

PRESIDING MEMBER GEESMAN: I want to

thank you for your comments. Let me respond to a couple of points made.

One, I think you're right with respect to the centrality of transmission, as it relates to the development of renewable resources. We held a workshop on transmission issues earlier this week; it's a separate chapter of this report. And it will be included in the Committee draft that we release in mid September.

We also intend to release a scoping order in the next couple of weeks for the 2005 Integrated Energy Policy Report. And addressing the integration of these intermittent resources will be one of the central issues that the 2005 process focuses upon. We do have several different studies under way at the Commission.

As it relates to out-of-state resources, the guidebooks that the Energy Commission has adopted for implementation of the residential or the renewable portfolio standard and the PUC's decisions implementing that program make very clear that out-of-state resources, under the federal interstation commerce clause in the constitution, will be allowed and cannot be discriminated against.

And then I guess finally I'd like to touch on this large hydro issue. The Energy Commission was not involved and is not going to be drawn into some type of religious struggle over what's good and what's bad in the sizing of hydroelectric facilities.

The Legislature set some standards, and under our rule of law they're the ones that write the statutes. Our duty is to carry them out. I think as this hydro issue is presented, and I've followed it pretty closely in the City of Los Angeles, to me it is an accounting issue.

If you can persuade the Legislature to include large hydro in your renewable portfolio standard targets, then you should include it in the statewide targets, as well.

California, we get between 10 and 30 percent of our energy from large hydro. So, you know, call that 20 percent. It would seem to me that our RPS goal, if we're going to include large hydro, should be 40 percent rather than 20 percent.

I'm not certain that gets you anywhere; if it satisfies some type of subjective need to say that large hydro is good, fine. Call the target 40 percent. But the way the Legislature said it, large hydro has not been included. The goal is 20 percent, and that's what we intend to apply to all of the utilities.

Other general comments? In the very back I see a dark -- oh, Steve.

MR. MASRI: Speakers, could you please give a business card to the court report so he doesn't have to chase you around the room?

MR. MUNSON: Thank you, Commissioner Geesman. Steve Munson, CEO of Vulcan Power Company, Chairman of Sylvan Power Company.

I would like to hit just a few general points and a couple of subsets that are general, but specifically oriented at the REC.

This report is, of course, the culmination of much work and many many workshops. I, personally, cannot remember whether my company was represented at the May workshop by myself or one of our other colleagues.

But one of my general comments is that this report states that there was unanimity of opinion in tentative support of the RECs at that workshop. And there was not, if we were represented.

We've continually been cautioning against the use of RECs for the reasons we're aware of. And one of my general comments is that I believe that this REC approach carries with it many inherent problems that are not fully vetted, or even alluded to in this report. I think that this report is currently very deficient in talking about the downside to RECs, the things that we need to carefully evaluate.

My big picture comments on RECs would include the fact that it will likely subvert and expensive investment process in numerous companies that have attempted to develop projects in northern California under the assumption that utilities will be purchasing real power instead of say, attempting to develop power in southern California and then sell RECs north, for example.

There could be a major geographic problem in terms of the location of projects.

I think that it will tend to act in a way that will put off the badly needed grid constraint upgrades at a number of sites. For example, Cottonwood and Round Mountain area. If RECs are traded from southern California I think we won't fix our grid like we should, both for renewables and other things.

I believe that it will cheapen the value of baseload projects in the sense that it doesn't differentiate between the quantitative benefits of baseload power vis-a-vis wind. I think that's a serious problem in any REC trading system that I'm aware of.

I note that for the last three years all over the country, including USDOE meetings on RECs, that the people primarily pushing the RECs were the brokers. And I notice that Enron was at the forefront of that process. I attended a number of meetings on these issues.

I think there's a very good reason that only 20 percent of the states have adopted RECs. And I think we really have to look at this very very carefully.

I also believe that it will subvert the legislative intent of this RPS by working against a broad diversity of biomass and geothermal and other projects throughout the state and will tend to concentrate the development in areas where perhaps we only fix, for example, the Tehachapi wind constraint, pull a lot of wind power out of Tehachapi and then don't solve the problems for moving large quantities of baseload into markets from the north.

In a general way I think this report needs substantial beefing up in two major areas. We have almost ignored biomass power. There's a great process going on right now at the federal level that's going to result in $750 million of annual payments to thin our forests.

California is indeed a large amount of that money. The process in each one of those forests, I'm quite aware, is going to take six months to 18 months to get these contracts signed up.

When the contracts are signed up that healthy forest initiative bill was called the biomass bill because it provides for ten-year fuel supply contracts to cut small diameter trees.

And biomass needs to play a role in this process in our opinion, and there could be many hundreds of megawatts of cost effective biomass projects. If the biomass projects aren't part of the RPS then there won't be a place for that fuel to go out of those forests. And the health forest initiative dollars aren't going to be tapped for California and we won't reduce the catastrophic wildfire risks.

I also think the report could use substantial additional input from developers. I've been asking for some time to meet with various parties and talk about the projects that multiple developers have on the boards for future new renewable output, instead of just going back to the old sites and developing there. We need a broad diversity of new resources. And I don't think this project captures the potential of this state.

For example, my partners' 270 megawatt, $550 million Coso Project would never have made a list like this prior to the SO4. And yet, five, six years later, 270 megawatts of baseload geothermal.

So I ask you to consider my comments. And I thank you for the opportunity. It's a great process. Lots of good work by the staff.

PRESIDING MEMBER GEESMAN: Thank you, Steve. Other general comments? Nancy.

MS. RADER: Good morning, Commissioners and staff. My name is Nancy Rader with the California Wind Energy Association.

I wanted to briefly comment on your

question 4A, what can be done to insure that transmission is in place for winning bidders, and --

PRESIDING MEMBER GEESMAN: Can I push you back to the workshop on that? Or do you have a --

MR. MASRI: Roundtable.

PRESIDING MEMBER GEESMAN: Roundtable on that?

MS. RADER: Sure.

PRESIDING MEMBER GEESMAN: Okay, because I'm going to try and get general comments out of the way and then we'll get straight to the roundtable.

MS. RADER: Okay, sure.

PRESIDING MEMBER GEESMAN: I think there was a hand in back. Yes, sir.

MR. SKOWRONSKI: Mark Skowronski, Solargenix. My company makes solar thermal generation assets.

And we strongly support the concept of rooftop collection, but we'd like to see that definition expanded to include solar thermal. To be frank, the concept of generating several kilowatts, residential size solar thermal is not practical yet. But the concept of generating, say, two or three tons of absorption chillers through solar thermal is practical.

And normally it's not in the interest of the people to have the government to dictate a technology winner. And what I'd like to see is opening up the definition of solar panels to include the solar thermal, specifically solar absorption chillers.

Two to three tons is equal to roughly 2 or 3 kilowatts. The effect on the grid would be the same, peak load reduction during sunny days.

Thank you.

PRESIDING MEMBER GEESMAN: Thank you, Mark. Yes, sir.

MR. WILTSEE: Thank you very much; I'm George Wiltsee with Ingersoll Rand. I did not prepare these remarks so they may not be as eloquent as some of the previous. And I'm coming at this both with respect to the distributed generation technology that we sell, microturbines that are specifically focused on waste gas, biogas and other fuels that are renewable or in the public benefit to capture.

But also from a long personal history

with the biomass technology base and industry, including working with many of the good staff members of the Energy Commission over the last 15 years on certain studies.

I would like to basically ask a question if it is possible to consider some of the special attributes of biomass and biogas resources in the context of the overall renewable portfolio.

And what I'm really getting at here is the fact that these are somewhat unique in several ways. One primarily is that it's one renewable resource that if you do not manage it in some manner it causes harm to the environment, both near term and also in the global warming sense.

In many many cases biomass and biogas resources, if you do not manage them properly, they convert into greenhouse gases, including methane, itself, which is one of the most potent.

And so, in the context of the whole portfolio of the renewables, you know, you look at the numbers and maybe these resources are relatively small in terms of their percentage of the huge goal that we're looking at; but in terms of a loading order, which is a concept that I am very impressed by in some of the recent state policy where, for example, the highest thing in the loading order right now is the conservation and efficiency measures. Which are similar in the sense that they correct human behavior, so to speak, which makes it a first priority.

And it's recognized it's not going to solve the long-term problem or get to the larger goal. But I would respectfully ask whether it makes sense in some way to consider some of the special issues surrounding forests, fires, landfills, other sources of biomass and biogas resources which originate -- many of the problems originate from man and not necessarily from nature.

So that's basically my comment. Thank you.

PRESIDING MEMBER GEESMAN: Commissioner Boyd, you and I talked about this at the first workshop I attended a couple years ago.

COMMISSIONER BOYD: I was about ready to join in finally. I've been trying to treat this as a workshop, and as a Commissioner absorb a lot of the comments. But biomass, Jane Turnbull mentioned it first, and I, for one, and I know Commissioner Geesman agrees, feel very strongly about what you just said.

And I agree with you a hundred percent. And I do think we need to address this issue more strongly than perhaps we have. I don't want to be unfair to the staff, because I've learned a lot of what I know about biomass and biogas from the staff of the Energy Commission down through the years.

I may have only been an Energy Commissioner for two and a half years, but I was a Resources Agency Deputy Secretary, I was decades in the air quality business, and this has been one of my personal pursuits to use our wastes, to use biomass, to deal with the fires in the forests, et cetera, et cetera.

So, you have a sympathetic ear here and I think you have a sympathetic ear at the Commission. Maybe some people are a little exhausted from trying to deal with this issue down through the years and not having a lot of success.

I was hoping we'd ride the unfortunate forest fire dilemma a little bit more strongly into a more aggressive program on biomass. And maybe utilizing all the testimony we have heard and maybe will hear today, we can turn up the heat a little bit more, pardon the pun, on this subject.

But personally I think you're right on. And what with the new interest in global warming and that being a principal concern of mine, as well as Commissioner Pfannenstiel, I mean I just agree with you, that is something we need to pursue.

And something that others outside of California are pursuing more aggressively than we are, which is a little unfortunate. World economy is much smaller than we are pursuing this issue.

But it always becomes an issue of the economics. And we have to turn the economics around. And many of us have been very unsuccessful for many many years in trying to convince other economists that you just don't have to move the cash from column A to column B to pay for it.

That there are benefits that will ultimately end up costing somebody somewhere that aren't being taken into account. The biggest one you mentioned, the cost of fighting forest fires. We just don't deal with that until after the fact. But, your points are well taken, and maybe build a little more momentum behind this issue yet again.

MR. WILTSEE: Thank you very much. I actually omitted one key point which I'll be very brief about, and that is that the solution or the family of solutions to these kinds of issues tend to be distributed generation, small scale generation technologies. Just by the nature of that resource, the biomass/biogas resource.

And therefore, there's another kind of nexus there which relates to your policies and policymaking related to DG.

So, thanks, again.

PRESIDING MEMBER GEESMAN: Thank you, Mr. Wiltsee. Are there any other general comments? Yes, sir, Don.

MR. SMITH: I'm Don Smith, the Office of Ratepayer Advocates. I agree with many of the general comments made this morning, particularly Mr. Munson's skepticism about renewable energy, or the trading of renewable energy credits.

But the main thing I want to say is just thank the Energy Commission for putting together this white paper. It's an excellent summary of information that can be found in about a dozen different CEC reports and reports by other people if you want to spend hours tracking it down. But you seem to have gotten the most important things together, at least referenced in one source.

And related to that is the quantification is quite valuable, too. You did a lot of work on putting numbers on the RPS, how many gigawatt hours that really means. And the net metering, how close we are to the limits. The technical capacity limits was good, too, because I often want to know or somebody will ask me about a technology or an issue like is there really that much resource, or should we be wasting our time on this issue or so forth.

And you put together in this report both the numbers and graphs, which I thought quite useful that answered the kind of questions that a lot of us get asked a lot of the time, in clear ways.

PRESIDING MEMBER GEESMAN: Thank you, Don. Are there any other general comments?

Okay, why don't we go then to the first roundtable.

MR. MASRI: If you'd like to participate in the roundtable please come on up to this long table here. And we do have a set of questions, as

Pam said, in the back that will be the framework for the discussion.

And, Pam, are you passing copies now? Make sure everybody has a copy of the questions.

(Pause.)

MR. MASRI: I think we're ready to begin this.

PRESIDING MEMBER GEESMAN: Let's go.

MR. MASRI: I'd like to remind parties also that you have until September 7th, after the workshop, to submit any additional written comments to the record for the Committee to consider, as was in the notice.

The workshop here, or the roundtable is organized basically to focus on chapters 4 and 5 in the report. And chapter 4 deals with central station renewable energy policy issues. And that's the subject of this segment of the roundtable.

We will then have a break and come back and reconvene to discuss issues relating to chapter 5 in the report, which are distributed generation renewable energy issues.

The agenda here for this discussion, we'll will walk down these topics one-by-one. And if you'd like to speak, just go ahead and indicate that. Since we can all see each other, I'll try to see who wants to speak and take people in order.

Give us what input you would like to on these questions and your rationale would help, and why you're telling us what you're telling us.

And just begin. The first topic here, and again these are really organized along the lines of the report, is publicly owned utilities renewable portfolio standard plans.

And under each of these topics you'll find a set of subquestions. So feel free to comment on any of those questions under that topic. When you get done with it, you move on to the next one.

And so I'll open it now for the public utility renewable portfolio standard issues.

MR. HOWARD: My name's Randy Howard; I'm with the Los Angeles Department of Water and Power, and I would like to make some comments on the first question before us.

Obviously LADWP is the topic of much perception as to what we're doing in renewables and I just want to clarify some of those activities. And some of the reasons why.

The first question says, you know, what steps are necessary. And I want to address is it really necessary in LADWP's case specifically.

Our local elected officials, including our management team, are firmly committed to meeting the RPS goals of 20 percent by 2017. As many of you know there's a lot of controversy on the definitions, and I'll speak to that in a minute, but we have not decided whether to include large hydro or not.

So, based on our existing plans we are looking at 20 percent by 2017 without large hydro, and how we might achieve that goal.

There are some differences, though, between publicly owned utilities and investor-owned utilities, especially in L.A.'s case, that we'd like to raise here. And that is LADWP is resource adequate, while the IOUs are not, requiring LADWP to comply with an accelerated timeline is inequitable because LADWP does not have the same need as the IOUs for new generation.

In August of 2000 LADWP adopted, and our city council approved, a 10-year integrated resource plan. That resource plan laid out how we would meet the obligations of the City for the next ten years. And I'll highlight a couple of those elements.

One of the decisions of the city council was that we would maintain self sufficiency in serving the City's customers, so we would own and operate all generation in association with the needs of the City going forward.

We would provide sufficient generation reserves to meet system reliability requirements. Our reserves now exceed 20 percent of our system load. We would meet 50 percent of all of our growth using distributed generation, renewables, as well as energy efficiency. We would reduce our CO2 by 1990 levels by 5 percent, which we have achieved.

We would install emission controls on all L.A. Basin generation. And we would repower the existing generation within our basin to upgrade for future use, as well as reduce the amount of gas required or fuel required by 30 percent on those facilities.

So we have embarked on that, a $2 billion plan. We're in the middle of many projects. We've completed several projects. And changing course for us very quickly is not feasible because of those contracts that were signed going forward.

The actions that we've made make us different than the IOUs. Again, they are looking to add resources to meet their needs. We already have sufficient resources. So we're looking at an RPS plan that integrates better with the future needs of the City.

LADWP also has different fiduciary responsibilities with the citizens of L.A. They are our owners. We do not have, obviously, stockholders. We have had approximately, by the time we're done with our RPS planning process, almost 40 public meetings on that process where our citizens and our stakeholders have been able to comment on how they'd like to see it proceed; what kind of definitions they'd like to have for renewables.

A very different process. We expect many more meetings still as we evolve into how we'll do a rate structure to compensate for any renewable work that we do.

We've also instituted a green ribbon commission from the mayor level where we have environmental groups, we have elected officials, we have management, we have neighborhood councils, we have large businesses. They're put in place to advise as to how to proceed with renewables, insure that we meet the goals of 20 percent by 2010.

We have also issued an RFP on the street. We're looking to close that out the first week in September. Out of that RFP we are hoping to add about 10 percent new renewables to our system by 2010. That would put us at about 13 percent renewables by 2010.

And lastly, LADWP does not have the same level of federal incentives that the investor-owned utilities have. As you know, we do not have the production tax incentives that were available to the IOUs. We have been lobbying hard with other municipal utilities, publicly owned utilities, across the nation for some type of equivalent tax incentives that would provide us with some of the financial equivalence that we see the IOUs have today.

Those are my comments.

PRESIDING MEMBER GEESMAN: Thank you, Randy.

COMMISSIONER BOYD: Thank you.

MR. MASRI: Could I just clarify one thing. You said that you have not decided, L.A. has not decided whether to include large hydro or not. But at the same time looking at what you can do to meet 20 percent without large hydro. Does that mean at some point you make that decision or not or --

MR. HOWARD: That will come out of a public process. Our public will make that decision. I do have some comments related to that. One of our issues on the definition related to renewables, and I have spoken on this many times, but for the 30 megawatt threshold.

We understand the concept; we understand the reasons when you're talking natural waterways. In L.A.'s case we have a mandated waterway, our aqueducts coming out of Owens Valley, where we have under 30 megawatts and over 30 megawatts. And it's the same water, I mean the entire way, from the Owens Valley down to Los Angeles.

And should those units there above 30 megawatts be included or not included on a manmade waterway. That's just a question that we brought to our customers to ask them what they believe to be the best for the definition on this.

MR. MASRI: Thank you. All right, anybody wants to address this question on publicly owned utilities? Yes, please.

MS. CIRRINCIONE: I'm Jane Cirrincione; I'm with the Northern California Power Agency. We are 64 percent renewables now, not counting large hydro. And it gets us up to, you'll see in our written comments, we're at 96.8 percent renewable if you include large hydro.

And our observation generally is that I think Commissioner Geesman you mentioned earlier about public interest in this issue. And the high level of public interest and public demand for responsiveness on the renewables.

And we work every day with mayors and city councils who oversee, get very educated on electricity issues and oversee their systems; and their member cities, members of NCPA. And they're on the frontlines with the community every day, and are not impervious to those kinds of interests among their communities. And I think that that's been demonstrated in NCPA's record, and those of other municipalities.

I think there needs to be a level of

trust in local communities and local decisionmakers to be responsive to that interest. I think our record shows that they've done that so far. And I think it's well that it was recognized in the legislative debate when this was before the Legislature. This was a hotly debated issue carefully considered by the Legislature. And the decision was made at that time not so long ago to leave deference to local communities and public power systems to respond and to move toward the state standard in their own way. And we believe it's working and we believe our record stands to show that.

So, thank you very much.

MR. MASRI: Anybody else would like to comment on the specific questions under this topic, should large hydro be included in defining RPS; and is 20 percent by 2010 a reasonable target for munis?

Go ahead, Bud.

MR. BEEBE: Bud Beebe with Sacramento Municipal Utility District. We established our goal for 20 percent of renewables, nonhydro renewables, by the year 2011. We established that in the year 2001 before the statewide legislation was considered.

And we're moving smartly towards that goal. We're comfortable with that goal. But if we had to accelerate that to 2010, you know, we might make that, it's a possibility. But we've got a plan; it's in place; and I think we can demonstrate clearly that we're going to meet our goal of 2011.

So whether it's 2010 or 2011, I hope that we don't get bogged down in whether that small amount is really important.

We do feel it's important that for statewide goals we should be shooting for earlier rather than later. And the 2010 timeframe is certainly within the ability of the electric industry in California to obtain.

So, in spirit we're there. We will stick with our 2011 goal as it stands.

It's asked here what steps are necessary for publicly owned utilities to reach the renewables. And I talked about this in previous workshops, and I'll do it privately, you know, you really just have to have a process in place. And I think this process that we are in at the current time is a pretty good piece of the overall process.

The process that we have internally at SMUD is ongoing and healthy. And the question then just becomes what processes do other utilities throughout the state have. And, you know, that's what we're doing here, is taking a look at that.

Certainly a couple of things are needed to reach any goal. And one of them is you can't wait till the last minute to do it. And so we should have steps along the way that show how we're going to meet those goals. Because if you don't have them you really aren't going to make it in the end.

To that end I think it was important for SMUD and maybe other utilities would be interested in something like this, too, to set interim goals.

We set a goal of 10 percent nonhydro renewables by 2006. And we feel we're going to make that. We're dedicated to doing it. And whether we actually accomplish that or not will be for the public record.

So that's a good interim goal. I think the other people ought to perhaps have interim goals.

In the sense of beyond establishing goals you actually have to get started. In SMUD's case we have designated a team who's responsible for getting our goal in place. And that team is working actively, as you may know.

We have issued an RFO for our first set of purchase power agreements, for renewable energy. And I think we've been wise in structuring it the way we have, to allow independent power or other utilities to be able to provide that through existing transmission pathways to transmission pathways that they may choose to bring to us, and so forth.

It's a very very open request. And it's brought some interesting responses that I think will be very helpful in meeting the ultimate goals. So you have to actually show progress along the way.

And so flexibility is going to be needed and actually getting rubber to the road is going to be -- we're there. So, that's important steps necessary to meet it.

On the question of large hydro being involved with it, I agree that it's simply an accounting piece. And I think in terms of us coming up with ways of setting goal it's an accounting piece. And those of us who are close to the numbers, it probably doesn't make too much difference whether the large hydro were included or not. As long as the rules realize that it's in or out, or what part of it's in or out.

Because what we're all trying to do here is both utilize the existing renewable resources we have adequately now and in the future. And we're also trying to build new renewables, good quality new renewables.

So the way the Legislature has decided to frame this growth is acceptable to us. And we are looking at adding nonhydro renewables, as defined by the state. And we think others could be able to do that.

That said, you have to be careful in our public comments to say things that the general public might find silly. Hydro is, in fact, renewable. And while it may be low impact or high impact hydro and all the other complications that you can get into with any resource, it still is a renewable recourse.

And so I think whichever posture we decide to take on this as a state, we need to make sure that we don't try and tell the people that it's not renewable.

So, that said, we are sticking with the state guidelines and the state requirements for nonhydro renewables, which includes a good deal of hydro, incidentally. But in our public comments we recognize that hydro is renewable.

The last -- actually, yeah, it was the last speaker, mentioned also the difficulty publicly of utilities dealing with the tax structure incentives that are available to private investors in the renewable arena.

And frankly I had not planned to mention it this morning, but it's true, we spent a lot of time at the federal level trying to work with federal authorities to figure better ways that publicly owned utilities can work with tax structure to help us develop new renewables. And maybe there's a place for the state to help us make that case to the federal government.

If we work through private entities to develop our renewables and by the output from them, that's one way to do this. And that's what we're doing currently. But there's a lot of places where it's just going to make a lot more sense for publicly owned utilities, or publicly owned utility partnerships to develop large renewable resource facilities.

And maybe this is something that we can put on the plate for dealing with later that the state could help publicly owned utilities to get tradeable tax credits or to make the renewable energy production incentive at the federal level actually viable.

That concludes for item number one.

MR. MASRI: Thank you, Bud. I think John wanted to speak next, John Galloway.

MR. GALLOWAY: Thank you. John Galloway, --

MR. MASRI: And, if I may, John, please speak to the six-inch microphone to the extent possible, close to it, the short one. Sorry, six inches away from the microphone I'm told. Okay.

(Laughter.)

MR. MASRI: Misread the message here. Okay. Six inches from the microphone. John.

MR. GALLOWAY: This one okay?

MR. MASRI: Thank you, yeah.

MR. GALLOWAY: Great. John Galloway, Union of Concerned Scientists. I don't think I want to tackle the issue of whether or not I think the municipal utilities should be at a 2010 or a 2017 target. I'm being given instructions here --

UNIDENTIFIED SPEAKER: Six inches from the microphone.

MR. MASRI: For the reporter.

MR. GALLOWAY: Is this okay?

UNIDENTIFIED SPEAKER: It's for the people listening on the internet.

MR. GALLOWAY: Okay, sorry to blast those people out of the water there.

Rather than tackle the issue of whether or not I think the municipal utilities should be at a 2010 or 2017 target, I don't want to tackle that other than I believe that they should have a target. Kind of harkens back to Mr. Kelly's point earlier about having some consistency statewide. I believe that whatever goals we're setting for the renewable portfolio standard should apply statewide.

And I wanted to also echo Mr. Beebe's point on having some incremental goals and targets towards achieving a 20 percent RPS. I would see that as one of the key cornerstones. The IOUs have an incremental target of at least 1 percent per year. I think either that, or even the kind of goal that SMUD has adopted is appropriate.

And as far as the large hydro is concerned we don't believe that large hydro should be included in the definition. I would agree with you, Commissioner Geesman, that if it were to be included that the overall target should then be increased in that certainly.

But just looking at, you know, what the Department of Water and Power has done down in Los Angeles, we commend them for adopting a strong RPS, and look forward to the results of their solicitation.

I think what I would encourage DWP and the other munis to do is to adopt a process that allows for more public input similar to what we have between the Public Utilities Commission and the Energy Commission on looking at the -- on how the RPS rules are going to apply, what kinds of resources are being adopted.

You know, the idea of putting trust in the munis is certainly important, but I believe there needs to be some other oversight of those processes so that we can all be confident that the state is going to achieve the renewables goals that are being set.

And that's it for the first point. Thanks.

MR. MASRI: Thank you. And I have Mr. Steven Kelly and Mr. Ray Juels here.

MR. KELLY: I wanted to talk about this issue about the definition, but also talk about some practical things the utilities, the munis could do to reach their goal.

I find myself actually agreeing, in part, or at least a significant part, with Bud Beebe's more improved statement that he's put on the table today.

But I will make the observation that an end point that has potentially 26 different definitions, or how many munis there are in the State of California, what constitutes RPS eligible and meeting RPS criteria, is going to muddy the water about obtaining the goals, in spite of this Commission's good reports to the Legislature, the fact of the matter is that the Legislature listens to innuendoes in the halls. And if a muni says, well, we've met it, they usually don't come up and ask, well, you know, what's in it. Does it include large hydro.

And while there are some citizens that would like to include large hydro, the Legislature, for the IOU, said no. I mean I'm aware of citizens that would like to include nuclear power as renewables.

And without some set of standards or consistency across the state we run the risk of going down that kind of muddled path, which I think will not be good for attaining a statewide goal.

Having said that, there are some things that I think the munis can do and ought to be considering now to achieve whatever goal is set for them. And first and foremost is to set timely and periodic, what I would like to see, procurements in an open competitive manner for new renewables.

I think right now the IOUs are out in front of the race and are picking off the low-hanging fruit and the next generation or two of new renewable projects are going to be very complicated and difficult to build.

And if developers do not have kind of an inclination of where the utilities are going in this regard, it will be harder for them to plan to bring the projects online in a timely manner in a procurement.

So, this comment applies to the IOUs as well as the munis, it's not exclusive to them. But the extent to which we can develop a process that sends signals to the marketplace far enough in advance so people can do the complex steps it takes to site new projects and bring those into a procurement process, the quicker we can get new development online. And that will be a critical measure of actually meeting these goals, particularly after the low-hanging fruit is picked off.

Finally, regarding the issue of tax incentives, and I would support certainly more tax incentives for renewable development, along those lines I think it's important that the Governor, state agencies, and the congressional delegation strongly get behind the passage of the federal PTC that would apply to all renewables.

That is probably one of the single most important financial incentives to develop new renewables in California. And if California can get that bill passed, giving our strong initiative to build more renewables, it will be a huge benefit to all consumers of California to have the federal government, through its tax code, providing additional financial incentives to meet those goals.

So I just urge that to occur this year if possible.

Those are my comments.

MR. BEEBE: Does this roundtable go round and round, or what?

MR. MASRI: If you'd like to speak, indicate and I'll recognize you for that. But Mr. Juels is going to be next. And then, Bud, you can go after that.

MR. JUELS: Yes, thank you. My name is Ray Juels and I represent Bear Valley Electric, which is a division of Southern California Water Company. And I'd like to address part A which it says what steps are necessary.

We believe those steps must also include some provision that would recognize the smallness of companies such as Bear Valley Electric. Who are we? We're the fourth largest electric utility, California-based, in the state. However, the difference between the third largest, which is San Diego Gas and Electric with some 1.6 million customers, and us with some 22,000 customers, is significantly different.

So any percentage requirement we have for meeting a commitment or a goal, the burden is really shared by a far fewer customer class. So we have to be very careful about the costs we're going to impose upon our 22,000 customers.

We really support the concept 110 percent, and we are trying to achieve just that. However, I went out at the first part of this year with an RFP for some renewable resources. And got three responses. Two of those three responses were such that our customers could never pay the price in the rates.

The third customer responded and we're now in negotiations with. However, that particular company is running into some obstacles in building their biomass project. And this ties into the suggestion earlier by one of the speakers that we look very hard at biomass to solve our problem, which we at Big Bear and at Arrowhead and the entire mountain community is experiencing.

This biomass project was in concept to utilize the trees that had been infested, and produce energy from them. However, the cost to do that we're now examining very closely because again we have to be concerned for our ratepayers, two-thirds of whom are primarily weekenders; one-third are there year-round. And so that cuts the base of those who must take the burden of these costs on, even that much less -- or more, excuse me.

The other issue is that if the steps that are developed don't include some provisions for exemption or delay or some recognition of the attempts of the utility, we just can't afford it in terms of the administrative costs, and in terms of going to the Commission for rate increases to pay for such items.

MR. MASRI: Mr. Juels, just for the record, Bear Valley is an investor-owned utility, correct?

MR. JUELS: Yes, it is.

MR. MASRI: Yes. And we welcome your comments. To the extent you also have comments on the questions, we will come back to that in the next item for investor-owned utilities targets and so on.

But if you would like to address publicly owned utility issues, we'd welcome that, as well.

MR. JUELS: Thank you.

MR. MASRI: Yes, please go ahead, John. I'm sorry, Mr. Howard.

MR. HOWARD: Randy Howard, again, with Los Angeles Department of Water and Power. A couple of additional comments that I'd like to put out.

When we issued our RFP a couple things we did to try to accelerate the renewables in Los Angeles, and one is we provided the option and we would evaluate any responses, giving them a greater advantage, if they utilized any DWP land. So we wanted to make our land available to any projects for any developer, and if they could site a project in the existing land that we own, we would value that much higher.

As well, we have extensive transmission, as everyone's aware. If they could get access to our transmission system and get onto our system or site in our system, there was also a greater advantage given to any proposals that did that.

A comment that I want to make, too, though, is if we're looking to accelerate anybody in 2010, what we see, at least from the utility perspective, and some of those that are coming in to propose offers to us, is all it really looks like is many of them are coming in to sell us what they're selling Edison today.

And that's a concern because that doesn't get us to what we're trying to achieve, and that's bringing in new renewables.

Now some might value the market that's going to be created here for existing renewables, but that is a concern.

We have a number of renewables that are generated in the City of Los Angeles today, and we export them to Southern California Edison under owner contracts. Now, we feel that those will probably come under the fold of Los Angeles Department of Water and Power fairly soon.

But recognize that some of us here will just be trading the same resources back and forth.

MR. MASRI: Thank you, Randy. I think, Bud, did you want to speak again?

MR. BEEBE: Yeah. Yes, thank you, Marwan. This is really a follow-on to what Steve Kelly was talking about. You need to recognize that the federal government and federal policies also have a role playing here.

A candidate for the President of the United States has talked about a $10 billion program to help the coal-generating facilities in the United States to clean up their act. And that's an important thing for the federal government to do. Certainly the people in the United States need to clean up those coal plants. And they use federal money to do that.

Well, let me say they use federal money, that's California money, too. And just cleaning up the coal plants isn't going to really get us to where we need to be as a nation. We need to develop renewable resources much more broadly than California. And when California is done here, either through historical accident or just great people, is to develop clean resources.

We did the natural gas thing and continue to have extremely clean natural gas resources that other people are looking at and developing on their own in the rest of the nation.

And we are leaders in renewable energy. And we need to do better at that. We are doing better at that. But we're developing it not just for California, not just for the people on the west coast, but actually for the nation and the world. And I think that we need to recognize that.

And the federal government needs to recognize that, too. If they're going to give $10 billion for the people to clean up their grandfather coal plants, then I think at least 20 percent of that money ought to go to us to develop our renewable resources. And statewide help to help our individual voices is really going to be a key piece in this.

Thank you.

MR. MASRI: Nancy.

MS. RADER: Nancy Rader, California Wind Energy Association. I just wanted to make two brief comments in response to the L.A. and SMUD speakers.

In response to the comment about it doesn't do any good to shift existing renewables from Edison to L.A., it would make a difference. Because if they shift to you, Edison has to buy more in order to meet their baseline plus RPS requirement. They don't have just a requirement to add, they have a requirement to protect the existing base and add.

And Edison makes it very very difficult

for existing project owners to repower and expand. So if they can do that under a contract with L.A., that's an improvement.

And I just wanted to compliment SMUD in its RFP because I've heard from our members that SMUD's RFP and proposed PPA was a joy compared to the San Diego and PG&E RFPs which contain very onerous terms.

MR. MASRI: Thank you. I have -- Steve, do you want to speak now?

MR. MUNSON: Thank you. Just a couple of comments exactly on these points. The utility LADWP is, from the vantage point of a number of developers, in a transition mode whose ultimate point is unknown.

Four years ago they issued an RFP; the green power team attempted to contract for almost 400 megawatts. And ultimately there's zero megawatts and nothing close. That was four years ago.

This is a utility whose mayor and chairman of the commerce committee both advocated a 20 percent objective to meet the RPS goals. I worked very hard for several sessions on legislative intent, and I fully understand what the Legislature meant, that the utilities would adopt the definitions and goals within the RPS standard.

I really request strongly that you consider tying the goals that are set forth in the RPS to objectives of the munis in some way. Because otherwise I don't think we'll get there.

Also, the second RPF, the second green power RPF of LADWP is on the street. As usual, the devils are in the details. And one thing that is troubling is that a 30 megawatt project, I think my math was right on this, will require that at the time it's selected it post a $400,000 bond.

That bond is not refundable if the utility decides that you're not negotiating in good faith on the contract. It's called negotiating with a pistol to your forehead.

And given the experience of our company and others that I've heard about, this is not an RFP that's an open issue type of RFP that's going to encourage -- I think that this needs to be taken into account in your deliberations. And I thank you for that chance to speak.

MR. MASRI: Thank you, Steve. John Berlin.

MR. BERLIN: John Berlin from NCPA. I would just like to comment that basically NCPA and its members are regularly going to the market for renewables to see what supply is out there, what the prices are, things like that.

Last year we did a green power RFP; got about 66 bids in for 2000 megawatts. And this was a combination of meeting the RPS plus trying to replace the PG&E thermal backup for the western 2948A contract. So it was a very important, critical issue for us.

We looked at supplies that could bring us short-term resources; in other words, purchase contracts versus something that we could develop midterm or longer term on our own.

And that's become a big issue because once I think the IOUs start looking at the bids that come in, and the same with LADWP, you're going to see some credit risk in the bidders. And that was one of our biggest problems, is you wouldn't necessarily sign contracts with these people that bid in the renewable resources.

This isn't to say the technology's not good, the products aren't good or anything like that, but it's just the financial risk that you have to take.

So the same thing we went through with the power marketers three years ago you get in the same kind of a situation where the credit risk of this whole market, renewables market, not to say it's bad, not to say the technology's not there, whatever it is. But if you strictly do the due diligence on these companies you wouldn't sign a contract with them.

So we got into the situation where we were limited in terms of what we could actually do short term, you know, based on what the market was providing with us.

Our biggest fear with the IOU RFPs is that the best supplies and the best contracts are going to go to the bidders into the IOU contracts, so that later on when the publics want to go to the market again to see what's out there, it's going to be less desirable resources, or less desirable locations, whatever it is.

So those are just a couple of cautions I want to put out. Like I said, we regularly go to the market to see what's there. Modesto Irrigation District did a 25 megawatt wind power RFP this year and has signed a contract, an agreement to deliver that wind power.

So the publics, at least in northern California, are regularly going to the market, so.

PRESIDING MEMBER GEESMAN: Why do you think the best contracts or best projects will go to the IOUs?

MR. BERLIN: I think they're -- I mean I think they're just the project size, their needs are much greater, and so you're going to see probably the top projects, the most competitive prices and things coming through that process.

Whereas you may have seen a lot of maybe people didn't even bid into the public power, NCPA's public power one because they knew the IOU one was coming this year.

So it's a tough call to say, but it's just, you know, a feeling that we have in terms of, you know, what's going to happen in the marketplace once the IOU contracts are delivered, that kind of thing.

MR. MASRI: Thank you. Steven, did you want to speak again?

MR. KELLY: Yes. The issue about credit terms and companies that are bidding, and whether they're creditworthy and so forth, is an issue that I think the state, both at the PUC and here at the Energy Commission, can help as we perfect these contract terms for these kinds of contracts.

One of the reasons why someone might pull out of a NCPA procurement is because the PUC had imposed a standard, a basic set if you were short-listed with the utility you had to negotiate solely with that utility and take your proposals with somebody else out.

I think there, over time as we implement these procurements, there is a lot of improvement in the contract terms that needs to be taking place. And we really need a forum to talk about that probably, as well.

I have heard from over the last couple years as these interim procurements have taken place, and as the procurements are taking place, from a number of companies that I think are, one, I know are very creditworthy. But, two, have told me that they have decided not to bid for one reason or the other.

And usually it's not because we didn't have a project that we could have bid into this. It usually had to do with the terms of the contracts that they felt onerous.

The utilities obviously have concerns, themselves, on this issue and it goes both ways. I think, though, one of the things that would be helpful would be to create a mechanism to try to perfect these contracts.

The PUC adopted standard terms and conditions. That should not be the last word. We should improve those over time to make these contracts more easily implementable by both parties.

MR. MASRI: Anybody else on this panel that wants to address this question? If not, then we'll go to parties on the phone if there are any people on the phone. You're welcome to make comments now. Sandra, do we have anybody?

Okay, if nothing we'll move to the next question. Question number two on the list has to do with individual utility targets. Right now the RPS requirement is across the board, equal percentages for all utilities from a perspective of efficiency and maximum resource utilization and so on.

We'd like y our comments and your ideas about the merits of designing specific targets for specific utilities, take into account factors that are unique to that utility or its resources available and so on. And in a way that's equitable.

If you have any suggestions for us on methodology and how to go about assuming that's a desirable thing to do, what would be a good methodology to design those targets in an equitable manner.

So that's the general subject of question 2, and I open it to you here to discuss. Jim.

MR. WOODRUFF: Good morning, I'm Jim Woodruff from Southern California Edison Company. I think that it's probably appropriate that I address this issue first, in light of some of the suggestions and analysis in the work paper.

We have obviously reviewed the white paper with considerable interest. And I'd like to commend Pam and her staff and others who have contributed to this. I think it's a good start in developing some good information, as Don Smith pointed out today, but there's a lot more work to be done.

I'd like to address a couple points this morning regarding the assumptions underlying individual utility targets. Part of that comes out of the way the question is proposed for discussion today. There is an implicit assumption the way that question is proposed that there's something inequitable about the way the State of California is currently implementing its RPS standard. That's the first issue I'd like to address.

Secondly, I'd like to address underlying rationale for recommendations or suggestions made here which is simply the physical location of the resource, and what the implications are for RPS compliance statewide.

Turning to this first point, we've heard a lot said about equity this morning. And I think we need to assume that our Legislature, when it enacted SB-1078, which is the RPS standard, understood where Edison was, where PG&E was, where SDG&E was.

I think our Legislature understood where the resources were located. Neither of these things are mysteries. And in this regard the white paper offers no new facts that would suggest that the Legislature erred in implementing the statute the way it did.

With full knowledge of that information the Legislature imposed a 20 percent statewide standard. And the way to get there is each LSE to which that standard applies is supposed to get to 20 percent.

It's not unreasonable to assume that our Legislature was also aware of the enormous burden shouldered by Edison and its ratepayers in implementing PURPA in the State of California. Your sister agency, the Public Utilities Commission, has commented in a number of public decisions about the enormous stranded costs created by renewable development in the State of California. Many of those stranded costs are still being borne by Edison's ratepayers as a result of the implementation of PURPA.

As I said, that burden has been borne disproportionately to reach the leadership position acknowledged in this paper for both the State of California and Edison, and the United States in renewable procurement.

So I guess with that, we question an underlying assumption here which is that somehow RPS is being implemented inequitably amongst the IOUs.

I would like to agree with Mr. Kelly's comments earlier that perhaps we should focus more clearly on implementing the standards of the RPS consistently across all the load-serving entities in the State of California, including public entities.

This would be both consistency of targets, consistency of accelerated targets, and consistency of how we denominate and count ERRs.

In any event, with respect to this first issue we question whether utility-specific targets are consistent with either the spirit or the letter of the current legislation. And for that reason we would recommend against adopting any utility-specific targets.

I also want to address the issue of technical potential. We all saw the slide this morning and I think it's a pretty compelling depiction of where the resources are located. But what does technical potential mean.

I think Pam mentioned this morning that the numbers and bars we were seeing there are estimates. The white paper, itself, says that it's difficult to measure the gross technical potential.

Before any recommendations concerning individual utility targets is made on the basis of physical location of resources, we think further refinement of readily developable resource mix should be required.

There was also an indication this morning, and in the white paper, that economic, social, environmental and cultural filters have not been applied to the gross technical potential. These filters should be applied to identify what can actually be extracted from Edison's service territory. And it begs the question of what filters will be applied. What are the economic filters to apply?

If filters are going to be applied to determine what that resource is, we think there should be an opportunity for hearing and public comment in a stakeholder process to look at what the actual readily developable resource in the service territory is.

The white paper does not discuss what I would call an operational filter. This week the ISO made a presentation to this Commission concerning the effects of fully developing the Tehachapi resource to the full 4000 megawatts of technical potential.

The ISO has concluded and indicated in some of its findings that that could cause system reliability difficulties and voltage difficulties.

I think this begs the question of whether penetration levels necessary to reach increased individual targets for SCE would be sustainable or consistent with legislative intent. The obvious implication of the ISO's statements and findings is that to sustain full penetration it would be necessary to build further reserves, presumably gas-based reserves, to back up that intermittent resource at that penetration level.

Will a more revised assessment of total technical potential take into account system reliability and operational impacts. We would ask whether the Commission Staff has considered the impact on overall resource planning within the ISO of substantially increasing the amount of must-take generation in Edison's portfolio.

What is the economic impact on Edison's net long position. I think there's been a lot of discussion of that in public hearings and what it means. This would exacerbate that net long position. And what is the operational impact of nearly doubling the must-take resources in our renewable portfolio.

Staff indicates at page 36 of this white paper that harvesting the renewable resources to achieve our current leadership and meet existing RPS goals will place, and I quote, "upward pressure on the cost of developing remaining technical potential."

We agree with this point. It's precisely the point I made before this Commission on May 4th. The issue here is not whether in some abstract way accelerated targets or individual targets are premature. The issue is what is the cost associated with those targets.

Staff's response in the white paper suggests that future technological advances spurred by additional investment may, and I underscore the word may, make these resources cost effective. This appears to us to be a complete leap of faith. What analysis supports the assumption that the likely increased cost of extraction will be offset by economies of scale or technological improvements. The analysis just isn't there.

There's a long discussion in the white

paper of availability of resources, and I'm turning now to the simple fact that this stuff is in Edison's backyard. Physical location and availability are two entirely different issues from our perspective.

The white paper talks about availability of cost effective renewable resources varying widely utility to utility. But does it? Physical location of resource may determine the first point of interconnection with the ISO grid, but it does not constrain the ability of such resources to contract with other LSEs.

In fact, Edison, as I think this Commission knows, has contracted with the Geysers. A contract which is in the -- sorry, resource in the NP15 ISO zone. Contractual provisions were made to deliver that product into SP15. That contract is 200 megawatts, I think. It's been approved by the CPUC both for baseline and IPT.

So the actual physical location doesn't necessarily make a resource unavailable to an LSE. We are -- I should say I strongly believe that a number of folks in our service territory are bidding into the current SDG&E and PG&E RFOs, and that they'll find some way to make those resources available if they're winning bidders.

I think as an aside it's worth noting that the RPS statute does not, on its face, require that the contracting LSE actually take delivery in the ISO zone in which it's located. It merely says that in ERR the resource must deliver into the WECC.

This is an interesting point because we're in the midst of market design. It's an ever-moving target. We've now moved from MDO2 to I think what we're calling Mr. TU, or MRTU, at this point, but the simple fact of the matter is that we're going to be moving from zonal pricing to nodal pricing. We're going to see CRRs. We're going to see revisions in how power's scheduled across interties and between current zones.

The white paper simply doesn't take any of these things into account in terms of the ability to move power from one place to another, or take delivery in one place and count it somewhere else.

The white paper assumes to appear, and I think this is the fundamental point on availability, that it's more cost effective to extract a resource in a particular area by the IOU that serves that territory. But, again, there's simply no analysis to prove that.

And I think unless it can be shown that there is a significant difference in cost then this underpinning of the argument falls.

A couple more points, and I think these are just more questions that are raised by the staff paper, but not actually addressed in a satisfactory way to us.

Will the existing PGC fund allocation allow for an overall statewide standard greater than 20 percent. It's implied by the utility-specific target for Edison. I think we all understand this is largely a function of bid price and MPR values. We're right at the beginning of this. As noted in the white paper, we're right in the middle of the first two RPS solicitations. We don't even know what the MPR is.

It is possible, and I think the white paper acknowledges this, that PGC funding may run out before we reach the current RPS standard. There's been a great deal of concern expressed at this Commission about stewardship and preservation of PGC funding.

It's just too early to tell. So I guess

it begs the question of whether any analysis has been done to support the penetration levels suggested by the utility-specific target suggested here; whether the PGC funding will bear that sort of utility-specific target. The white paper is unclear on that point.

Ultimately these questions raise a fundamental policy issue. As the cost of extraction increases along the supply curve, will the incremental benefit that's realized justify the cost. We haven't seen that analysis. We would like to see that analysis.

Finally, I think Commissioner Geesman and others have mentioned the issue of transmission. It's a very difficult, if not intractable, issue at this point. The simple fact of the matter is acknowledged in the white paper. There are a lot of resources out in the boonies. And whoever develops this resource, the transmission, physical transmission is going to have to be built.

So, we have real concerns about increasing targets for Edison because of the implications for additional transmission buildout. We're still sharpening our pencils on this, but a very rough estimate of the incremental cost of transmission buildout to go to an illustrative 30 percent renewable target for Edison is approximately a billion dollars nominal -- MTB 2004 over the existing estimates for buildout, principally just to get to the Tehachapi.

My company is concerned about stranded costs for these transmission facilities. As other have noted, there's a very long lead time for transmission. Planning, funding issues, construction issues, operational issues to get this stuff online.

Realistically and optimistically if we begin planning for increased utility-specific targets, we're talking 2010 or later just to get the transmission here.

If the generation doesn't come, if the staff's projections about the cost effectiveness of renewable resources prove to be incorrect, who'll pay for that transmission? We'd like to know the answer to that. Whether the CEC has performed a risk assessment that the PGC funding at current levels will be insufficient to support buildout for individual utility targets proposed here.

I think the bottomline is there are questions that need to be answered before we move to a utility-specific target. We'd like to see that analysis done, and we'd like to participate in that analysis. As I said, Edison is sharpening its pencil. Obviously we take a great interest; you've gotten our attention. So we'd like to work with staff at anytime that's appropriate to work through some of these issues.

But at this point it would be premature and perhaps sui sponte, I think, to develop a utility-specific target for Edison.

Thank you.

PRESIDING MEMBER GEESMAN: Well, Jim, where does one begin?

(Laughter.)

MR. WOODRUFF: A lot of options.

PRESIDING MEMBER GEESMAN: I guess the most disappointing aspect of your remarks is their predictability. Because in so many previous instances the comments provided by your company in this forum or in the Public Utilities Commission proceedings on RPS have been so similar.

I am heartened, though, to say despite the public representation that your company provides renewable development, that your actual performance has been substantially better. I continue to puzzle over that dichotomy. I draw a lesson that I think at some point those in your legal division that actually think about these things instead of simply react will probably figure out that the message is pretty clear, you need to be hit over the head with an axe handle all of the time in order to prompt corporate performance. I think that's a fairly disappointment way to operate, but it seems the pretty consistent message.

Now, most settings, apart from the regulatory setting, your company takes great pride in its existing performance in renewable contracting. I've been around long enough to know that most of that was at the direct prodding of the State of California as it regarded your QF program. I know the QF program is the great bane of your existence when you appear in this forum or the Public Utilities Commission. But I continually read proud pronouncements of the pride that you take in being the largest purchaser of renewables in the United States.

And I think that your management has

provided quite a bit of leadership in this area over the years. And certainly on a technical level. Many of your staff have been at the cutting edge of technological development son a number of different renewable technologies.

My colleagues and I work for a guy that is on record wanting to see a 33 percent renewable penetration level in the year 2020. I think it is abundantly clear we're not going to get there without the active harnessing of all of your corporate talents. And I would include the City of Los Angeles in that category, as well. This is a southern California challenge principally.

But yet we continue to see the same types of comments from you today that the Public Utilities Commission singled out for censure in their June 30, 2003 RPS program.

I am continually contacted by individuals within you company every month saying we can do better, we can do a lot better, we ought to be doing more. And yet your lawyers and other governmental affairs representatives appear in these forums with effectively the same script that you brought to us today.

I just suggest that you go back, think

this through as a corporation; recognize the fact that you've got a superlative record of actual performance in this area over the years. Recognize that you lead your industry in this area over the years. Recognize that your state needs your help if we're going to accomplish the Governor's objectives.

And I think that over time we'll be able to count on your help. I suspect that your legal affairs division may be the last unit within your company to come to that conclusion, but I'm confident that in the future we'll have a more harmonious program between this thing than perhaps we do today.

MR. WOODRUFF: May I respond briefly?

PRESIDING MEMBER GEESMAN: Certainly.

MR. WOODRUFF: I don't mean my comments today to be taken as obstructionist or acrimonious. Point in fact, Edison has taken great strides, as you've acknowledged, to reach the position it has today.

It has taken great strides today to comply with the RPS statute as it's currently written. The statute is written the way it's written, and we are doing everything we can to comply with that statute and intend to do so fully.

That is engaging a number of people in my business unit and in our law department virtually full time to bring the kind of contracts to the Public Utilities Commission that we can be proud of, that will augment our position already.

The principal thrust of my comments has to do with cost. We are indeed very proud of our leadership position, but it came at an extraordinary cost. Commission decisions that I refer to will indicate that there was approximately $16 billion to $20 billion in stranded costs as a result of achieving that leadership position.

If 33 percent is the right place for the state to go, that's for policymakers to decide. They should decide those questions. But my purpose today is simply to request that this Commission and its staff and analysts fully explore the costs associated with doing that, so that the public is fully informed.

PRESIDING MEMBER GEESMAN: Well, as you know, --

MR. WOODRUFF: We don't think that

that's been done.

PRESIDING MEMBER GEESMAN: -- as you know, your company was largely responsible for writing the legislation that created the RPS program. And you also know that your ratepayers are protected from out-of-market or above-market costs by a public goods charge subsidy.

You also know that you are about to achieve a 20 percent performance level under the RPS program this year without having yet spent or encumbered one dime of that subsidy money from the public goods charge.

Now, you mentioned your contract effort. You did an interim solicitation, I think, about 14 months ago. To my knowledge those have yet to yield any contracts. I've been told several times by fairly high ranking officers at your company about the hundreds of megawatts that are about to be publicly announced, but you know, after about 14 months it would seem to me that your contract effort would actually produce a product, and you could go forward and make the announcement.

MR. WOODRUFF: One would certainly hope, Commissioner, and I can only echo Mr. Kelly's comments and those of others, that the contracting process has proved to be extremely difficult for a variety of reasons, including the vagaries of market design, transmission issues, risk allocation; and we're working through those in real time for the first time. Credit support has become a critical issue.

I fully expect that PG&E and SDG&E, when they get to a short list and find out who their bidders are, are going to find a number of the same problems. I think Nancy's comments foreshadow that. That some of the terms there are ones that perhaps parties aren't going to be too comfortable with.

So, this is not an easy process. And we would much rather have been before the Commission with contracts earlier than later. But we are fully engaged and we're moving forward.

PRESIDING MEMBER GEESMAN: We look forward to that.

MR. WOODRUFF: Thank you.

MR. MASRI: Thank you, Jim. Anyone else would like to address this topic? Les.

MR. GULIASI: Thank you. Les Guliasi with Pacific Gas and Electric Company.

As you know, we're about 13 percent now

with respect to renewables in our portfolio. We're proud of what we've done to get where we are today, and we recognize that it's a lot of hard work before us to get in full compliance with the legislative mandate.

As you know, in our recent announcement with our long-term plan, we stated publicly that we expect to meet all of our load growth through -- resource needs through energy efficiency, demand response and renewables.

So there's a lot of work to be done. There's a lot of work that's going on. We've already been referenced this morning to a request for offers that we issued in July. We're now just getting bids. We're evaluating those bids, and we hope to have renewable contracts signed up by the end of this year.

In addition, I think I mentioned before in this forum, or in the energy action plan forum, that we're working with developers in our service territory -- with wind developers to see if we can work with them to repower projects, to further accelerate incremental amount of renewables for our portfolio.

With respect to the specific question

about criteria that can be used for a more equitable determination of goals, you know, Commissioner Geesman, I'm sorry that I probably will disappoint you because I really can't think about in a very constructive way what we need to do and where we need to start.

What I can say is that we have a lot to learn from the process that we're currently in. And I think it may take at least this first round of solicitations and contract negotiations to get us, you know, some more information.

We still have questions to answer with respect to the economic and operational liability of a lot of the renewable projects that we'll see in the solicitation. So I think it's just a period of time we need to gather more information before we can address the question with greater specificity and be more constructive.

I do think, though, that the issues that not only Edison has raised, but some of the municipalities have raised with respect to cost and price, are valid. They're valid concerns.

I think if you step back and you take a look at the value proposition from the perspective of our customers, it's clear that there is a segment of the customer base that wants renewable energy, and they want more renewable energy.

But the research that we looked at, and I reflect on the comment you made about the research you've seen from the Public Policy Institute surveys, that customers are really concerned about price. And they're really concerned about the quality of service. I think those are the two issues that are foremost in customers' minds.

So the question becomes, you know, how much can we do to stimulate the market for renewables and obtain renewable energy at a reasonable cost. We don't want to get to the point where we tax the customers such that we're going to find, you know, customer rebellion when they see the high cost of renewable power, if indeed renewable power comes in at a high cost.

Again, we'll need the information from the solicitations. We recognize that there is, you know, subsidy currently available, and a market reference is being developed. But we're not at the point yet where we're going to know enough information to really respond adequately to this question.

When we look at it from the perspective of the customer we want to make sure that we give them the value proposition that they're interested in, as well as the service and products that they're interested in.

The issue of stranded costs is another issue. You have to factor in not only the cost of the power, itself; the transmission costs that are going to be associated; and the other ancillary costs to get that power to market and to the customers.

So, again, these are valid concerns. They're concerns that the investor-owned utilities have. And, again, I think they're concerns that we've heard echoed again today from the municipalities.

PRESIDING MEMBER GEESMAN: Les, do you have a sense as to what your company forecast gas prices to be say a year and a half or so ago?

MR. GULIASI: Not off the top of my head.

PRESIDING MEMBER GEESMAN: Well, we sat in our '03 IEPR process and spent a fair amount of time trying to work up a gas forecast. My recollection was we were in the low $3 range. and that was not a universally acclaimed price level. But it did represent a rough consensus among more conservative forecasters at the time.

Obviously the last year and a half has blown through that assumption pretty vividly. And I think that both you and Jim raise good concerns about costs. And I think our process needs to try and make the best decisions on costs that we possibly can.

I think we also need to recognize the limits of what we know and how unpredictable some of these cost assumptions are. And I think we need to try and develop a fairly prudent approach to mitigating those cost risks where we can.

And I would submit to you the largest cost risk this state has faced over the last ten years, and I would suggest probably going forward as well, has been the cost of natural gas.

MR. GULIASI: No argument here. We'll have an opportunity to look again at those gas prices through the 2005 process. And I understand that work is about to commence on the data collection and the analysis forecasting.

I think you're right; I think we'll see pressures toward upward prices in gas. You're also going to address issues like LNG, another factor that can mitigate some of that volatility we've seen in gas prices.

So, I think you're right, in terms of an overall portfolio and the kind of diversity you need, the hedging strategies you need, renewables can play a very important part of that issue, to address price volatility as well as, you know, customer need, customer preference.

PRESIDING MEMBER GEESMAN: And the bidding process that the PUC adopted in its RPS decision attempts to take that into consideration with this market price referent concept.

So I think the program, as designed, with the help of some of Mr. Woodruff's legislative draftsmen does attempt to address the cost of renewable contracts as best we can.

Thank you.

MR. MASRI: Steven Kelly and then Nancy Rader.

COMMISSIONER PFANNENSTIEL: Marwan, may I just make a --

MR. MASRI: Sorry, --

COMMISSIONER PFANNENSTIEL: -- make a comment here.

MR. MASRI: -- Commissioner Pfannenstiel.

COMMISSIONER PFANNENSTIEL: I noticed that really most of the speakers this morning, the publicly owned utilities as well as privately owned utilities, do get back to this question of cost. And not wanting this program, which everybody seems to support, to add to the cost that their customers are facing.

I think that where we are, I think we're in a pretty good place right now where we do have, through the legislation, protection of the supplemental energy payments. We don't know how far those will take us, but we have no reason to believe right now, at least for the privately owned utilities, that the existing, that the contracts that they're going out to bid for now are going to start driving up their customer costs.

So, to some extent that's a bit of a red herring when we put that, I think, at the forefront of our discussion. I think that there are a lot of both longer term cost issues, ultimately where the price of gas is going, what the cost of transmission upgrades will be, that we need to look at going down farther down the pike.

But I think right now the question of ultimate price impact on customers is probably not our first concern. Not because it's not important. We all know that it is. But because I think the program right now allows us this first go-round, at least, with some level of protection from the supplemental energy payments.

MR. MASRI: Thank you, Commissioner Pfannenstiel. Steven.

MR. KELLY: Actually, Commissioner Pfannenstiel just stole my three-minute speech. She did a better job than I, so I appreciate that.

MR. MASRI: Nancy.

MS. RADER: I just wanted to respond to some of what Mr. Woodruff said and some of what PG&E said.

The wind industry is confident that when the full transmission and system integration costs associated with Tehachapi are fairly and reasonably assessed that the Tehachapi wind will bear out as one of, if not the, least cost renewable resources in the state.

I'm curious about Jim's reference to the ISO's cost studies that came out this week -- I haven't seen those. Because I expect the Commission's phase three integration cost studies to show that they don't expect a big regulation cost impact problem with the Tehachapi resources.

And, by the way, the ISO is coauthor of those studies. And I'm anxious to see that phase three study, and I hope it will be coming out soon.

I'd also like to note that the ISO has started to perform cost studies for the Tehachapi study group. It seems quite positive about the ancillary service benefits of a looped configuration for Tehachapi that would create a fourth circuit on path 26 linking the resource both north and south.

And I would like to request that the Energy Commission bring that integration cost study team to the Tehachapi study group effort to help them quantify what the ISO stated was their expectation of considerable and ancillary service benefits from a looped configuration. I think it would be very helpful to have that team in that working group.

And just in response to PG&E's statement about potentially high cost resources, I would really like to ask you to look at your contract terms, because I know that they drive up costs and reduce competition. They drive competitors away. They raise costs unnecessarily.

Thank you.

MR. MASRI: Thank you, Nancy. Mr. Doug Hansen.

MR. HANSEN: Thank you. My name is Doug Hansen with San Diego Gas and Electric Company. The question being posed here is an excellent visionary question that does need to be addressed, and should be addressed.

I appreciate the fact that you did put it on the table as something to be talked about. However, it is a very tough question to answer in a workshop setting such as this that is focused on many many other issues at the same time.

It has a breadth in and of itself that is very deserving of more time that perhaps is appropriate spent at this workshop.

At the risk of flattering my Edison counterpart I actually listened to what he had to say, and much of what he had to say helped identify a number of the issues that I think do need to be addressed. In order to address the question, and in addition there's some other intertie issues that are appropriate to consider.

For example, what, if anything, is going to change on the horizon relative to transmission and transmission siting. That has a lot to do with whether or not San Diego Gas and Electric can get hydro power, for example.

I've lived in San Diego County for, well, well over 50 years, let's leave it there.

(Laughter.)

MR. HANSEN: And I've got to tell you I have never ever been able to identify a good hydro source in our County. Transmission -- I'm not trying to suggest any roadblock here, I'm only trying to suggest it is an issue that interties with this. So does the unbundling of the RECs with the supply, itself. I think that has a potential value or effect on SDG&E. And could have a relative effect on SDG&E as compared to the other IOUs.

How that's resolved is going to be an issue that should be taken into account answering this specific question.

And with that, I think that concludes my comments. Just an excellent question. Work has to be done to get a good answer.

Thank you.

MR. MASRI: Mr. Juels. I'm sorry, Mr. Munson is first and then Mr. Juels.

MR. MUNSON: Two points on utility transmission for renewables. We have attended numerous meetings where the state treasurer has suggested that the California Power Authority be converted to a funding entity whereby California Power Authority funds could be utilized to build transmission for the state.

We would request that the California Energy Commission would consider getting behind some genuine effort to take the pressure off the state utilities. Realize there might be ownership issues, but nonetheless, it may be a mechanism to provide third-party funding for the transmission we need.

And we need transmission in a lot of places. It's not just Tehachapi. I can't fully agree with the remarks earlier that Tehachapi, either at the 2500 megawatt level or 4000 megawatt level, is going to be the most cost effective upgrade in the state. Very preliminary numbers that our company has from published figures and from the conceptual studies that the PUC docket did on renewable transmission, indicates, for example, $600,000 per kilowatt -- $600,000 and a bit more for 35 percent efficiency wind resource. $600,000 per megawatt installed transmission upgrade. Perhaps as much as $1,300,000 per megawatt installed for a 4000 megawatt upgrade.

Meanwhile we've looked at things like the greentap proposed for the use of the Pacific DC intertie line to bring 500 megawatts of baseload into California. That preliminary cost is $100 million for 500 megawatts; that's only $200,000 per installed megawatt for transmission upgrade.

The North of Cottonwood conceptual study that we had done by PG&E said $41- or $43,000 for 240 megawatts. That's a cost of $180,000 per installed megawatt. A northeast greenline to bring biomass and geothermal in could perhaps done for $30 million, 300 megawatts, $100,000. And there are others.

We would really request that this Commission make every effort to get these other transmission things funded.

PRESIDING MEMBER GEESMAN: Mr. Kelly

made a similar remark about use of the Power Authority in transmission at our transmission workshop earlier in the week. I wonder, for both of the Stevens, what value do you think the Power Authority brings to that particular area that the utilities don't already possess?

I mean I take it both of you infer some unwillingness to invest in transmission on the part of the utilities. Frankly, that's not been a problem that I think has been very clear to this Commission. I think we've called quite a bit of attention to the horrendous permitting process that the state currently indulges in in the transmission area.

And in this year's IEPR we spent a fair amount of time about some of the flaws in our transmission planning process that have, I think, tended to hamstring our efforts.

But unwillingness to invest on the part of any of the three California investor-owned utilities has not been perceived, at least up to now, as a problem. And I wonder if either or both of you might elaborate on why you think the Power Authority has something to bring to this question.

MR. KELLY: Yeah, one thing that the

Power Authority can bring to the table, in addition to the analytical tools that it would bring doing any transmission study, combined with the work of the Energy Commission and the PUC, is a, I'll call it enthusiasm for trying to interconnect renewable supply pockets to the grid.

And as I'd indicated at the transmission workshop last week, there's the reality now of a market structure whereby the utilities have an interest in building generation that recreates the arguments that persisted through the '50s and '60s and '70s, particularly with regard to the muni access, about access to the transmission grid.

Now we have an Independent System Operator and the problem has really shifted to who's going to build transmission to interconnect the independent power producers, or anybody who is a potential competitor of the owners of that transmission who have generation interests.

So one thing that would happen if the Power Authority or a state entity like that were willing to step up to build transmission that was identified, not necessarily for economic reasons, but for reliability and for purposes of building out a state policy such as the RPS, is an independence.

At a minimum the perception or the reality that some other entity is willing to step into the fray and build the transmission in a timely manner to meet these goals may provide the incentive for the utilities to be more active in these deliberations.

I mean, since the AB-1890 passed and since the RPS passed we are still confronted with kind of a dearth of new renewables coming onto the grid. There's a lot of projects that have been talked about. There's a lot of projects, some of which have executed contracts, not too many. But as a practical matter this transmission issue creates a huge impediment to bring this on.

And we need to figure out a leverage point to overcome that. And I harken back to your comments earlier with some utilities you have to hit them with a stick to get them to move. And I think that's the problem we have now.

It is so easy for utilities to control the process of an application for new transmission, the timing of that, that very little gets built. And that's what I'm seeing when I look out on the past and on the horizon.

MR. MUNSON: Perhaps a couple of other issues that bear on this. The California Power Authority would be a tax exempt, I understand; therefore, 30-year money would be substantially cheaper than an IOU perhaps. That perhaps is one issue, overall installed cost.

It also occurs to me that there are issues, ramming up issues that are central to what a new transmission system might look like. And some party needs to, in our opinion, of course, we read the policy issues on what a ramp-up might look like. I've forgotten the buzz word, it's a great buzz word that says, what's the point at which you build when you've got 25 percent of the transmission load contracted for, or 50 percent.

But you pick that point and then you build forward so that your system is there to handle the expected future load.

And our company has observed some real willingness within Edison at the transmission level to discuss these issues. And there are substantial issues to be dealt with. Some other party probably needs to come in and help really lead that discussion and get things built.

PRESIDING MEMBER GEESMAN: Thank you,

both.

MS. RADER: Can I respond to the --

MR. MASRI: The gentleman from Redding, please.

DR. ARTHUR: I believe the original question was should there be any different standards for individual utilities. And so I would like to address that from Redding's perspective.

Because we have fully resourced, including signing power contracts and building our own plant all within the last four or five years, which in other forums we'd have been complimented for, but in this forum it looks like we may be punished for it, we have all the energy that we need to serve our customers for the foreseeable future.

What we do not have necessarily is all of the capacity that we need to serve our customers. For those of you not familiar with Redding, it gets very hot. We have no industry and we probably have the worst load factor of any utility in the state. It's somewhere around 35 to 38 percent currently.

If you look at the polite term called

intermittent resource, that's really a code word for the fact that it provides energy but it does not necessarily provide capacity.

And so our dilemma is that the standard is an energy standard in an environment in which we don't really require energy, but we do require capacity, but the intermittent resource really doesn't provide capacity.

That isn't to say we aren't going to go out and try and get additional renewables. It's not to say we're not going to try and find ways in which we can better firm that resource. In fact, I have that as an assignment.

But it does suggest that some taking into account of the actual starting point of each utility is relevant, starting with what is its energy preparation, what is its capacity purchases, where is it located, what are the transmission considerations that it has to confront or deal with.

I think if we don't take into account individual utility situations we will actually delay the ability to get where we want to go, rather than accelerate it, because as I think you've heard today, it's not clear that one size fits all.

Having put that qualification in place, I do think, as I've listened today that providing encouragement to people is not without merit. And to just say hopefully everything will take care of itself may not be the answer.

So we need probably to try and find some midway ground between mandate and policy that clearly sets out expectations, but maybe can do so in a way that provides some flexibility, as well.

Thank you.

MR. MASRI: Mr. Juels.

MR. JUELS: Again, as the fourth largest utility in California we have the same problems Edison has; the same problems as PG&E and San Diego has with respect to the costs associated with these issues.

We also have a problem with transmission availability. We're located up in Bear Valley, which is a resort area just above San Bernardino. And we're constrained by capacity. We only have a 38 megawatt power line coming up the hill.

And so we're constrained with transmission line service, which we tried to fix that problem 16 years ago when jointly Edison and we embarked upon building a 115 kV transmission line, which never happened. And probably won't for awhile.

So, the problems they've all shared with you this morning, we have, albeit on a much smaller scale, but the impact is just as great on our customer base because it's so much smaller than the three.

Thank you.

MR. MASRI: Thank you. Nancy.

MS. RADER: I wanted to respond to your question, Commissioner Geesman. It's what I was going to say when I address -- when I stood up here earlier. And it really gets to question 4, what can be done to insure that transmission is in place for the winning bids.

Your draft report, I think, correctly notes many of the challenges of bidding that -- building upgrades that are needed to accommodate multiple projects with multiple owners that are on different development schedules.

As you know, the PUC has taken a major step forward towards resolving that challenge by ordering a study group to develop a transmission plan for network upgrades to accommodate the full resource potential in phases, rather than planning and building transmission on a project-by-project basis.

I think CalWEA and the wind industry generally is very pleased with the progress of this study group. And we're especially pleased with the studies and participation of the CalISO. They've already completed studies that I mentioned look at the benefits of alternative configurations, including one that links north and south. And they've shown that creating a fourth circuit on path 26 creates substantial economic value.

We're also encouraged that the PUC will quickly develop an EIR for the entire resource area, rather than doing the EIR in one segment at a time.

But to get to your question, the elephant in the room is the question who is going to provide the up-front financing for this upgrade. Because, you know, ultimately the ratepayers are going to pay. The question is who finances it for five years or so.

Edison is challenging in court the PUC's authority to carry out its decision to require

Edison or any IOU to finance the line. And yet it's quite clear that no single developer or consortium of developers will be able to accomplish this.

So the question is if Edison prevails in court how is this line going to be built in time to allow Tehachapi to contribute towards meeting the 20 percent RPS goal.

I think that the IEPR should address this question directly. And the state needs to give serious and immediate attention to alternatives to utility-financing and ownership of the Tehachapi network upgrades.

Even if Edison loses this case, and as you just heard they are quite unwilling to plan and build for the long term, the alternatives include, I would say, not so much the CPA, which clearly does not have statutory authority to finance transmission, but could be the state's -- bank, which I think does have authority, or private third parties. I think we need to quickly look at those options.

MR. MASRI: Thank you. Steven.

MR. KELLY: Commissioners, it's ironic after listening to the parties' comments that in your guidance and wisdom I think we might have stumbled across one of the most compelling and somewhat ironic dilemmas about developing renewables in California today.

I'll speak to the comments that my good friend Dave from the City of Redding has said throughout the day, and I think they apply to Bear River and probably other entities in the State of California, but I'll reference Redding for now, based on the comments I heard this morning.

I've heard Redding say that they are stymied by their efforts to try to develop the most northern solar facility in California, if not North America. And I've just heard them say that they're stymied by the lack of transmission to bring in wind from possibly 400 or 500 miles away to meet their RPS.

In the meantime they're sitting in probably the biggest biomass basin of northern California. Within 50 miles of Redding is probably more biomass energy than they could possibly use. Within the valley of Redding there's probably four or five facilities, two or three might have shut down over the last couple years. But those provide jobs and tax base to the

City of Redding if they're operating.

And I'm just stymied why that resource, which is so local, doesn't get utilized or tapped to meet renewable requirements. And I think that applies -- I pick on Redding this morning, but it's because Dave's here. But it applied across the board. It amazes me that that resource goes untapped from a utility that's located right in the middle of it.

PRESIDING MEMBER GEESMAN: He's approaching your back very rapidly.

(Laughter.)

DR. ARTHUR: Well, the first thing that would be interesting to note is that over the course of the last probably 15 or 20 years, most of what Steve referred to has been shut down.

In fact, the site of Redding Power used to be the former site of a bankrupt Wheelabrator, I believe, renewable facility.

Just so we can talk about maybe a slightly other branch of the CEC, we had to have phenomenal numbers of air credits in order for those facilities to operate. And we have, fortunately for us, banked those air credits. But they required phenomenally higher air credits than what the gas-fired generation requires, which is to say they're way more polluting. An issue that at some point I'm sure Steve will want to talk about.

But lastly, we have tried to have conversations with people from time to time about acquiring some of that. We continue, in fact, to be very interested in things that make environmental sense, that make economic sense, and look like they have sustainability.

And I believe even one more of the facilities he referenced is a facility that largely runs on natural gas now, rather than primarily on wood chips, although they do use some wood chips.

One last small issue to bring to Steve's attention and that is the City of Redding is part of the western grid, it is not part of the PG&E grid. And as Steve knows, if one crosses between those two worlds very dramatic things happen.

And most of the facilities that Steve makes reference to happen to be in the PG&E grid rather than in the western grid. And while we recognize there is such a thing as an ISO grid, we're not quite sure where it is. And we're not sure we ever want to find it.

(Laughter.)

MR. MASRI: Yes, Jane, go ahead.

MS. TURNBULL: I guess what I'm hearing is that we're forgetting, I think, the reason we're here, which is this integrated energy policy effort. And we're getting into more parochial issues, and I think what the League has been trying to make a case for over the last several months is this increasing need for integrated land use planning on regional levels.

And this need for discussion to think these issues through and to get out from our parochial kinds of one-versus-the-other, really is where this process ought to be taking us.

PRESIDING MEMBER GEESMAN: Amen.

MR. MASRI: Thank you, well said. We have covered the first two questions on this session of the roundtable. And we're planning, according to the agenda, to break after this topic, which has two more questions in it.

PRESIDING MEMBER GEESMAN: Why don't we break now.

MR. MASRI: And come back in an hour?

PRESIDING MEMBER GEESMAN: Yeah, let's

come back at 1:30. We'll take up question 3 then.

MR. LANGENBERG: Can we stay and answer number 3, Commissioner?

PRESIDING MEMBER GEESMAN: Number 3 is going to take quite awhile; there's a lot of people who want to be heard on that.

MR. MASRI: And if I may remind the parties, if you could please sign, we have a sign-up sheet in the back, so we have a good accounting who was here. If you'd like to sign that on the way, we'd appreciate that.

(Whereupon, at 12:30 p.m., the workshop was adjourned, to reconvene at 1:30 p.m., this same day.)

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AFTERNOON SESSION

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MR. HOFFSIS: Good afternoon. My name is Jim Hoffsis; I'm with the Commission's renewable program. I'll be filling in this afternoon for Marwan who needs to leave shortly.

Since this next question has quite a few subparts we're open to suggestions, but one expedient way to proceed might be rather than marching through each and every subquestion on its own, when each person speaks say whatever you want to say about this entire topic. You might indicate which of these questions you are responding to, might help keep the record a little more orderly.

I've been asked again to remind everyone please to stay within about six inches of the microphone if that's convenient. And before you speak please state your name again for the record, and for the phone.

So this is the topic of possible use of unbundled renewable energy certificates in future RPS solicitations. I think you have the questions in front of you so I won't go through all the subparts. So let's just open up the discussion.

Joe.

MR. LANGENBERG: Okay, good afternoon. This isn't exactly the question that I thought it was going to be when I first came up here. But anyway, it works in here with the idea of possible use of unbundled renewable energy. I have a question. Why do we really have to have the environmental emission attributes connected with the electric power?

Why can't we ask generators market the electric power and market the renewable, the emissions attributes separately?

The reason I say this is because it would give the -- well, the generator, number one, is the entity that would be removing the pollution emissions through the collection of the medium that he's using for fuel. Any other entity that removes pollution emissions is entitled to market his product.

This could be another product for the generator to market. My question really is to the staff here, why do we have to bundle up the pollution emissions along with the electric power? And why do we have to sell this to the utility?

That's my whole question. It just --

because the way I read any of the information there is no compensation to the generator for mitigating any of these environmental pollutants. What is his compensation?

If a generator goes to purchase offsets when he's licensing a thermal plant he's paying on the order of -- I'll quote a couple numbers from San Joaquin Valley Unified, you're talking for PM10 offsets, you're talking about $20- $25,000 a ton. Same thing with NOx. Volatile organics, you're talking maybe $8- to $10,000 a ton. The same thing with sulfur oxides.

Now, why shouldn't a generator, if he is removing such pollutants, why shouldn't he be entitled to market these offsets, to trade the offsets?

Again, you're talking now about a new market, also. You're talking about the methane and carbon dioxide emissions. At the moment there may not be a big market for it, but because of the focus that California is putting into it there's an awful lot of activity right at the moment amongst the trading companies for -- I mean they're just licking their chops waiting to get into this market. There will be a market in the foreseeable future, the not too distant future.

And my question really is relating to question 3 here is why do we have to even mention the environmental attributes with the electric power generation?

PRESIDING MEMBER GEESMAN: Let me respond just very generally by saying that if you look at the state's RPS program --

MR. LANGENBERG: Yes, I have.

PRESIDING MEMBER GEESMAN: -- spread out over nine innings, the ninth inning let's say at 2010 when we accomplish our 20 percent goal, the state very clearly has an interest in seeing new plants, new renewable plants built as early as possible.

I think the state does have a preference for seeing those plants built in California, but it cannot discriminate against out-of-state projects under the interstate commerce clause.

MR. LANGENBERG: Okay.

PRESIDING MEMBER GEESMAN: At what inning in this nine-inning process will the state's interests best be furthered by developing an unbundled RECs market?

I don't know the answer to that. But

I'm hopeful that this panel today can help bring some light to that question.

MR. LANGENBERG: Well, perhaps I can help you there, Commissioner Geesman. The sooner the better. And I mean I'm not being a wise guy when I say this, because right now it's difficult getting moneys to fund even a normal thermal plant.

It's a lot more difficult funding a renewable. I think these gentlemen have attested to that long before I got the microphone. This is an additional source of revenue which any lender, any money person can recognize.

And the sooner something positive is put in toward a means of compensation, even though I know you have to quantify, et cetera, et cetera, there are steps to go through. But the sooner anyone can quantify this, and it can be put down on some sort of a -- on a sheet showing a prospective investor, this may expedite the funding of renewable plants.

PRESIDING MEMBER GEESMAN: Now, I know Steve Monroe (sic) was here earlier this morning and he seemed to have an opposing view. Are there others on the panel that disagree with the notion that the sooner we get to an unbundled RECs market the better? Jane.

MS. TURNBULL: Jane Turnbull, League of Women Voters. I don't know that we disagree, but we want to be cautious. This hasn't been done before in California. And I think there are real possibilities of making some errors that could be compounded over time on this.

So I guess the League has been suggesting, both in terms of the legislation and also here, that perhaps it be done in some pilot endeavor step-by-step.

Now, I think with the tracking process that is currently in place at the Commission, and outside the state, perhaps enough information is beginning to build up so that the confidence level can be a little bit greater. But there are just some risks.

PRESIDING MEMBER GEESMAN: Steve.

MR. KELLY: I actually think it's a little unfortunate the Legislature is looking at this issue right now without much information or knowledge about the impacts of how it would play out. But that's just the way things are going.

Setting aside the issue about

California's RPS and sending development out of state, and focusing simply on development instate for purposes of discussions now, particularly in light of the resource map that this Commission has developed that shows that so much more resources are available in the south than in the north, I don't know why you wouldn't unbundle it to maximize the ability to bring in those resources at least cost.

I'm operating on the assumption that an unbundled product is going to minimize -- excuse me, will have an effect of lessening the need for new transmission investment, not totally. But it may create a vehicle for bringing in an RPS goal at a lower cost than it would otherwise.

I still think we'll probably need, are going to need additional transmission capacity from south to north. I'm not sure if the path 15 upgrade is going to facilitate that or not. And you may need additional transmission to get to localized sites so they get into the grid in order to have a tradeable product.

But, it seems to me that unbundling the product would make for more efficiency.

One of the things that I was planning on mentioning today was that I do think there's a dearth of information about RECs. I know of east coast experiences; I know of experiences in Europe. And one of the things that would probably be really helpful would be to have parties from those areas, experienced with the RECs programs, come in and talk about how they run them and what are the implications.

Because you've got a couple questions in here about what are the effects on minorities, and what are the effects on market power. And when I saw those questions I have no empirical proof that those are problems.

But we are operating a little bit in an information vacuum on some of this stuff. So certainly as soon as possible it would probably be helpful to bring in some expertise to inform stakeholders and policymakers.

And like I say, who knows, any legislation that's ever been passed can always be changed, so, you know, if it's got to be the bill that's being discussed today, well, fine. I think it's a cumbersome bill and blah, blah, blah. But we need more information about this.

But, you know, in response to your

initial question, particularly setting aside the issue about out of state, because I understand that one pretty well, it seems to me would foster greater efficiencies.

MS. KEANINI: I want to -- I'm sorry, Commissioner Geesman, I want to jump in really quick to respond to Jane Turnbull's comment earlier that tradeable certificates have not been used in California before. And as part of a California Energy Commission's customer credit program that was in place from 1998 through I believe March of 2003, tradeable credits were accepted, or tradeable renewable energy certificates were accepted as proof of renewable energy purchases for that program.

I believe they are also used to some degree in the power source disclosure program.

MS. TURNBULL: Are they bundled?

MS. KEANINI: They were tradeable, but they could be separated from the initial energy they were purchased with. They had to show energy purchases, but they could use tradeable renewable energy certificates. So it didn't have to match the energy they purchased. So they could buy what's considered to be like brown energy, and buy the tags separately.

They had to prove that they served energy to the load, but they could buy the tradeable certificates from another person than who they bought the electricity from.

MR. LANGENBERG: Who got the compensation for these credits?

MS. KEANINI: As part of the customer credit program we did not have that information on who received the payment for that. So I don't know if it was the generators or not. I mean I'm assuming that they got something for their tradeable certificates.

MR. LANGENBERG: Either the generator or the person that collects the fuel, whatever it happens to be, I'm guessing that it would be more biomass oriented, but whoever collects the biomass, I mean, is the one that mitigates the pollution emissions.

MS. KEANINI: Well, this didn't have directly to do with pollution emissions. This was just renewable energy certificates. So there wasn't any discussion of pollution emissions at that time.

MR. LANGENBERG: Well, this is my whole

point. It's not just a question of renewable energy from a renewable source. This is a question of renewable pollution emissions, as you call them, I think, environmental attributes.

And it states in the RPS that the, in the rulemaking 0404 or 0406 - 026, I believe, that the energy attributes go with the power. And it defines the pollution emissions. Just about everything you can think of, and it specifically states it.

But it doesn't quantify or it doesn't mention who is compensated. If the generator sells, as an example, if the generator sells electric power to a utility and does the utility -- and just gets a electric power price, then does the utility stand to gain the benefit? Does the state? What does the collector, what benefit does the collector get for mitigating the pollution emissions? That's my point.

MR. BERLIN: John Berlin, NCPA. I think basically NCPA is taking kind of a neutral position on renewable energy credits or green tags. But, you know, I look at it as a method for those public utilities that are long on resources to be able to participate in acquisition of renewable credits, that kind of a thing. So they could go out and cost effectively purchase green tags with not necessarily the energy.

And I think an important thing that we're trying to do is just educate the utilities in terms of how the renewable energy credit market works. This fall we're going to put on workshops for the publicly owned utilities in both northern California and southern California with NCPA members to exactly go through all the products available, contracts, that kind of a thing.

Just to educate people and allow them to utilize, you know, if the tags are unbundled they'll be able to utilize them to meet RPS goals or environmental benefits, whatever.

I think one of the issues when the public starts to learn about green tags and things is there's an assumption if somebody says, okay, we're going to go out and buy green tags to meet an RPS goal, then once the public find out that those environmental benefits are not necessarily local, then there's kind of a shift in consumer attitude about actually utilizing green tags for certain specific goals.

I mean it's one of those things where

the closer the resources to, you know, the service territory, the better; the more the environmental benefits, the better the consumer's going to look on it.

So, it's kind of an issue that we've been running into, so.

MR. LANGENBERG: Well, as a suggestion, if I may, Commissioner Geesman, whatever the source is, let that be attributed to that particular air district. In other words I'll take San Joaquin Valley as an example.

If I put a plant in the San Joaquin Valley Air District and we collect the fuel, which contains the pollutant emissions, from the San Joaquin Valley Air District, then let them, you know, let them get the credit.

PRESIDING MEMBER GEESMAN: Can the people of San Diego sustain a program --

MR. LANGENBERG: I'm sorry?

PRESIDING MEMBER GEESMAN: Can the people of San Diego sustain a program creating environmental benefits in the San Joaquin Valley?

MR. LANGENBERG: I don't know what type of renewables they happen to have, Commissioner. I mean in this particular case with the project

I'm envisioning, San Joaquin Valley Air District could.

Now, I doubt that it would be applicable, this particular project would be applicable to San Diego. It may be applicable to Los Angeles to some degree. But it would be more applicable to San Joaquin Valley.

PRESIDING MEMBER GEESMAN: Jack.

MR. PIGOTT: Jack Pigott from Calpine. I think a distinction can be made between completely unbundling RECs and encouraging transactions that enable the delivery of renewable power to circumvent congestion or allow renewable energy that needs to be imported from areas of the state that aren't part of the ISO controlled grid, or from out of state.

That type of transaction might be a power swap; it might be similar to the EPA wind integration product where the power that's actually delivered may not be contractually the exact same power that's generated, but yet the purchaser is paid based on the generation that, the meter at the renewable energy facility. And the seller and the buyer may arrange some other way to get the power delivered.

And I think that that sort of thing is very important, particularly at our Glass Mountain project. Which, right now, is supposed to interconnect into Bonneville. It's located in California. And the power has to be imported into California using mechanisms that currently aren't long term. Could be an FTR or I guess in the future they'll be called congestion revenue right. You can only get one of those for a year or two, and you're not able to finance a project based on that.

And I believe that there is a similar problem coming in from the IID and from other locations.

So, if a power swap could be done, for example, we could deliver 50 megawatts to Bonneville and they could deliver 50 megawatts to us at Cobb and Tracy, or someplace like that, that should be encouraged.

And my recollection of the current guidelines that were done I guess towards the end of last year, it called for -- tags and things like that, which I don't think did what I'm talking about.

And I believe that the Commission should take the position indicating that, you know, encourage flexible and creative delivery options. That's one point.

I would also like to address point 3(e) where it asks the question of whether unbundled RECs would be a good option for energy service providers and community choice aggregators.

To the extent that energy service providers may only operate under a two-year, five-year contract, you can't really expect any contract with them to support project financing.

And so I think you need to have some different type of requirement for them. And it may be that bundled RECs are the answer. It may be that there are other things that could be done, similar type power swaps to what I just described.

But just to directly answer the question I think unbundled RECs would be a good way for those entities to fulfill the requirements.

PRESIDING MEMBER GEESMAN: I'd be curious to know of any other instruments or alternatives that would be useful to either ESPs or CCAs. We're going to have to write rules for them at some point here in the future. And I think unbundled RECs have been put forward as a good fit for their needs.

You may be right, there may be power swaps that could fulfill at least some of their needs. If anybody has any other suggestions I'd like to hear those.

Bud.

MR. BEEBE: I certainly second the notion that we need to find ways that we can promote these power swaps and other methods of taking care of the actual movement of power around.

But I want to make it clear that SMUD thinks it's important to bundle the energy with the RECs. One of the things that does is that it puts the RECs in the hands of say responsible and publicly accountable entities that then can retire these things.

And that gets us where we want to be, which is to develop the renewable resources. If we allowed the RECs to be unbundled completely, and it were a free market, that's a different situation. And that's something that we all looked at five years ago and tried to find ways to make that work.

But, the truth was we didn't have a

primary market in renewables. And what we're establishing here is a whole new set of new renewables for California.

And once we get, as we get that primary market into gear, we will find it will need places where transaction costs can be furthered, can be reduced by a secondary market. And that's where RECs unbundled from the energy can potentially in the future play a place -- or have a place to play.

But, if we take our eye off the ball and try to jump too quickly to that secondary market situation, we'll drop the ball. So we're firmly in the camp of requiring RECs to be connected with the energy that we buy. And if we find that that energy and capacity is below NP15, if it's below path 15, and we need to do an energy swap, we certainly want everybody to understand what's going on, and we'll do that all in public. But that has to be done in a lot of other cases.

So, the point is let's not unbundle those things yet. Let's realize it is a potential future piece and stay the course for the moment.

PRESIDING MEMBER GEESMAN: Andy.

MR. LANGENBERG: Can I answer that,

Commissioner? Or may I ask a question in response?

Let me ask a question. How do you compensate someone for mitigating the pollutants or --

MR. BEEBE: Yeah, that --

MR. LANGENBERG: Let me finish my statement.

MR. BEEBE: Sorry.

MR. LANGENBERG: When you go to license a thermal generation facility who's going to pay for the offsets? Obviously the generator. Now, not the utility, the generator. Okay.

Now, if the generator is mitigating the same pollutants that he has to buy offsets for, and he's not being compensated or she is not being compensated or the entity is not being compensated then where's the fairness in that? Where's the incentive for this renewable facility?

That's my point. If we divorce the power from the environmental pollutants, from the emissions, from the attributes, call them whatever you want, we sell the energy. This way you can power shift, you can do anything you want with the energy. And as far as dispersing environmental credit, perhaps it could be done on a statewide basis. I don't know, I'm not smart enough to figure that one out, quite frankly, Commissioner Geesman. Perhaps the CEC could come to my aid on that one.

But, anyway, the point is that I'm trying to make is if a renewable provider provides environmental benefits to a community he is entitled to compensation. And there is no means of compensation in any of the documents I've studied.

And as I said before, the sooner it's addressed the sooner it becomes more expeditious for these renewable plants to get going, to get the financing available, to get the financing to put them together.

MR. BEEBE: Let me say, there's two issues here. One is whether or not renewable energy is always more expensive than something else. And that's not true, okay; so there's no implicit high value on it being renewable energy in terms of dollars.

MR. LANGENBERG: Agreed.

MR. BEEBE: Right, relative to the cost of power. Because like otherwise we'd be out selling all that 29 megawatt hydro we have, right?

So, I don't think you need to have that piece. But let me ask you, if -- and I hope you did bid to SMUD's RFO on renewable energy --

MR. LANGENBERG: Not until we get this issue straight.

MR. BEEBE: Okay, but you should have because it would have been a good opportunity to yourself, to us, okay. But I'll tell you --

(Parties speaking simultaneously.)

MR. BEEBE: -- in the contract negotiations when it came down to the price of the power that you would sell it to us at, if you felt that your power had additional value that we were not offering you for, you should ask it.

And that's what happens at the negotiating table. Because maybe you do have something to offer. But that's where it belongs, not as a separate, unbundled piece that we then sell to somebody in Florida.

MR. LANGENBERG: Let me ask you a question again, now. Again, relating to cost. With market value, and again I'm quoting San Joaquin Valley, for PM10 pollutant offsets 25,000 bucks a ton. How much do I have to add to a kilowatt to make 25,000 bucks a ton?

You couldn't afford the power. The Saudi Sheik couldn't afford the power. You see my point? In other words, even to put a little bit of an incentive is not going to be enough.

That's why I'm saying, just like any other entity that provides environmental offsets. They collect what the market will bear.

What was the cost of NOx offsets seven, eight years ago? Maybe Mr. Pigott could answer that better than I can, with Calpine. Probably around 5000, 6000 bucks top. What is it now? 25,000 bucks? What is PM10? What was it? What is it?

So in other words, it's whatever the market will bear. And then if a generator has to go out and purchase offsets, if you're going to say I'm giving you a couple of cents and he has to pay 25,000 bucks a ton for the offset, is that fair? It's a big issue; it's a very important issue.

COMMISSIONER BOYD: Mr. Chairman, --

PRESIDING MEMBER GEESMAN: Commissioner Boyd.

COMMISSIONER BOYD: As one who spent an

awful long time in the air quality business, I'm really struggling with the apples and oranges discussion we're having here.

And I see some of the point, or some of the issue here, and I think we have a person who says that when you produce renewables you're producing apples and oranges.

And they deal in two different markets, air quality credits are dealt with in the air quality programs by air quality districts. They're discounted for distance; by the time an air quality credit got to San Diego it's probably worthless.

And we're dealing with renewable energy credits that we're trying to create. And I think there is an interesting issue here that the vendors of renewable energy may have two, three commodities that they can sell in markets. The air quality benefits, but there's not a niche for that right now. The RECs --

PRESIDING MEMBER GEESMAN: The RPS has tried to bundle them all together.

COMMISSIONER BOYD: Right, right. And I can see the struggle that's occurring here because they're not necessarily comparable.

We have an issue that needs to be untangled here. And I see the point. But we're not going to untangle it in this forum today.

MR. LANGENBERG: Oh, no, this is true. I just wanted to bring it up, sir, because it has not been addressed in anything that I have seen in writing. And I think it's a very critical issue. It's certainly a big money issue. I mean we're not talking about a few bucks. We're talking about substantial amounts of money.

COMMISSIONER BOYD: No, I hear you. And you just may have found another leg to stand on in terms of the economic value of renewable energy.

PRESIDING MEMBER GEESMAN: Let's move on. Randy.

MR. HOWARD: Randy Howard, LADWP. I just wanted to second Bud's comments as to at least from our customer base and our governing body they've determined that really the physical is what we're looking for. And we would not participate in an unbundled market. And that's what we've been told very clearly.

And we do believe that at this point in time it's best to keep those things bundled. Most of us in the transmission business, both from the electric and the gas, are very familiar with swap opportunities, and do so on a regular basis. And we think that's really the better way to keep it.

MR. HOFFSIS: Steve Munson indicated he wanted to speak. Steve.

MR. MUNSON: During the extensive run-up to the law implementation there was a lot of discussion about this exact topic, particularly around the market price referent. And many of the developers and a number of the public interest groups thought that the developers should be able to maintain all of their attributes, and that we would be selling essentially a generic product into the marketplace if we weren't allowed to maintain our attributes.

The other side of the argument was summarized, I guess, by saying that we were going to be paid above-market prices and get the public goods charge above whatever the market price referent was set at.

During that time, as Commissioner Geesman had said earlier today, 18 months ago, 12 months ago, there was major question what the referent price might be. And some of us had argued that gas was going to be in the $5, $6 range. And other said no, the prevailing view was no.

It now looks like the prices that people are going to be putting out on baseload power generally are going to be comparable to natural gas prices going forward.

We all admit, I guess, that it's kind of liars' poker trying to figure out just what that's going to be. But the fact is we're becoming very very competitive with natural gas prices.

Maybe it would be a very good idea to reopen this discussion and soon, and see if perhaps the developers can't keep their attributes and then we all work very hard to create a statewide or west-wide trading, gas emissions trading programs.

I know that the Western Governors seems to be disposed to go that way. It's a powerful forum. And if we can't keep our attributes as developers, at least the attributes that are going to the utilities should not be allowed to trade as a REC type product, in our opinion. We think that that's going to do all the things I mentioned earlier today about disrupt the market process that's underway.

And we don't think that they should be unbundled for trading purposes. We do think that the gas emission trading credit program should be something we should all pull together on and focus on, because I think we're going to lose a lot of value if we create a REC instead of having that value be segmented into CO2 and NOx and SOx and the other things. I think it will leave a lot of value on the table as a state that we could, either the utilities or developers, make money on.

And from the state's perspective, if the utilities are the developers or selling those products to other people, it will pull the price of power down to all of us.

So I -- sir?

PRESIDING MEMBER GEESMAN: Would you expand on your point of concern about a tradeable certificate?

MR. MUNSON: Our concern is that the tradeable product -- well, there are a number of concerns. One is that it doesn't differentiate between the quantitative value of baseload power compared to intermittent power.

And baseloads have much higher value to the system. A number of studies seem to show that. And that value of baseload power is lost. And it would skew the overall process towards intermittence, in our opinion.

PRESIDING MEMBER GEESMAN: Explain to me why you don't feel that the certificate program would accurately reflect the value of baseload. You're losing me a bit on that.

MR. MUNSON: The credit would be tied simply to a renewable kilowatt hour.

PRESIDING MEMBER GEESMAN: Right.

MR. MUNSON: That kilowatt hour is a more valuable kilowatt hour if it is baseload than if it is intermittent, more valuable to the system.

PRESIDING MEMBER GEESMAN: You mean if it's dispatchable?

MR. MUNSON: Yes.

PRESIDING MEMBER GEESMAN: Okay. So when you say baseload what you're principally referring to is a dispatchable --

MR. MUNSON: Not just the dispatchable product, but a baseload product that is operating when it's supposed to be operating. If we get into the dispatchability issue then we have to talk about how dispatchable is the Geysers and multiple plants versus single plants, and that becomes a complicated discussion.

PRESIDING MEMBER GEESMAN: So it's around-the-clock operation that you feel would be undervalued?

MR. MUNSON: Yes, sir, that's correct.

PRESIDING MEMBER GEESMAN: I think you also had a comment this morning, concern that reliance on a certificate program would impede development of necessary transmission infrastructure.

MR. MUNSON: I believe that it would. I believe that the state is -- we all know our state is faced with many problems of a financial nature. And the state is seeking ways to implement an RPS program that some think is still going to cost additional money over and above market prices.

The state would prefer not to make substantial investments in transmission if it can figure out another system to minimize those costs, it appears. And I believe that the REC program is one way of avoiding the need to make some of those investments that need to be made.

These transmission constraints have been studied intensively and known about for years. We should fix them. And fixing them will obviate one of the reasons we're even considering a REC.

MS. KEANINI: May I ask a clarifying question? About the -- you said that one kilowatt hour of the dispatchable would be more valuable than the intermittent, but I'm curious, and this may just be my lack of knowledge, but wouldn't that be captured in the electricity product, itself?

Like if you separated the electricity product from the renewable attributes, wouldn't the value of whether it's intermittent or not be captured in the value of the electricity product, itself?

MR. MUNSON: Well, that all depends on how this market gets established. I mean right now the RPS requires us to give all of our attributes to the utility. That's the way the market sits today.

I'm not sure if you're suggesting there'll be a change in that program, as well?

MS. KEANINI: No, I was just curious because -- just so everybody knows, my role in the whole thing, I work with the California Energy Commission and I'm actually the western renewable energy generation information system project manager. And so I've been deeply involved in working on a regional tracking system that would track renewable energy certificates.

And so at least from WREGIS' point of view, not necessarily for California purposes, but in general for WREGIS, that's what we're calling the system, we would allow unbundled RECs. So that would allow the electricity to be traded separately from the REC, because the tracking system is solely to track where do the renewable energy certificates go, not where the electricity goes.

MR. MUNSON: I'm sorry that I don't think I agree with what you just said. And the reason I don't is there was a substantial discussion about whether to set up the tracking system or not.

And it was explicitly discussed and decided, I thought, during that process that the only reason for setting up that system was to allow to make sure that people weren't double-selling renewable power, and primarily to make sure that people weren't getting credit, you know, more than one was getting credit for meeting the renewable portfolio standard.

And it was explicitly agreed that system wasn't going to be set up to unbundle those RECs.

MS. KEANINI: I just want to clarify that the WREGIS system will prevent double-counting. And the reason it will prevent double-counting is for each megawatt hour of electricity that's generated, a WREGIS certificate is issued. And then that gets transferred around. And it's basically a big accounting system.

So whoever has the certificate in their account is the one who has the ownership to those environmental attributes.

MR. MUNSON: I'm aware of that. But that's all the system was supposed to do. The system was not --

MS. KEANINI: And that is what --

MR. MUNSON: -- supposed to be set up to allow, on a priority basis, this disaggregation and trading of the product.

MS. KEANINI: I think I'm not sure I'm clear on what you mean by disaggregation. There's two separate things. And I know that unbundling is when you separate electricity from the renewable energy certificate.

So we have created an accounting system that tracks the renewable energy certificates.

Now, for California purposes we can bundle that with the electricity. However, the other states who are participating in WREGIS have decided that they don't want to have bundling requirements.

Now because it is a regional system and it's not a California system, the decision was made for this system to track unbundled RECs and there will be a special extra requirement that for California purposes that bundling will be tracked, as well.

MR. MUNSON: I thought it was clear what I said. We agreed --

UNIDENTIFIED SPEAKER: Well, I think we should clarify. WREGIS doesn't support a trading system. WREGIS is simply a tracking system.

UNIDENTIFIED SPEAKER: Right.

MR. MUNSON: Yes, ma'am. That's my point. Thank you.

MR. HOFFSIS: Comment at the end, there?

DR. HARRIS: Thank you. My name is Frank Harris; I'm with Southern California Edison. I want to echo the comments by Bud and Randy.

I'll steal a line from one of my coworkers and say that at Edison we're still sharpening our pencil on this issue. We don't have a corporate position on it yet.

But we are concerned about the value added for unbundled RECs. Right now I don't see them doing anything that a swap does not already accomplish. And, as such, I think it's very important that we make sure that we turn very square corners on any analysis to make sure that if we are going to create a trading system, and I'm not talking about the WREGIS tracking system now, but if we are going to create a system of trading in exchange with the results of transactions costs that are going to occur, this is not going to make the process any less expensive necessarily, over a swap arrangement.

We want to make sure that if we are going to do that, then indeed there are economies, there are efficiencies. I wouldn't want us to simply presume that those efficiencies exist, and just operate from that position going forward.

MR. LANGENBERG: Then why can't we just take the electric power, as it is, and then your suggestion? In other words, if you have the two entities, if you have the environmental attributes in this hand, if you have the power in this hand, essentially the utilities, their business is distributing power, is it not?

You have --

DR. HARRIS: That's one of the things that we're charged with, yes.

MR. LANGENBERG: In other words, you have to have, by law, so much renewable. It's up to the generator to prove that the power that he's marketing to you is renewable, is it not?

If I were to sell you 1000 megawatts of power and I said it was renewable power, I would have to have a facility set up or something to prove that it was renewable power, would I not?

DR. HARRIS: Frankly, I believe that we also have to demonstrate that the power we're purchasing is renewable if we're --

MR. LANGENBERG: That's what I'm saying. In other words --

(Parties speaking simultaneously.)

DR. HARRIS: In other words, the burden is also -- we also have a burden --

MR. LANGENBERG: Right.

DR. HARRIS: -- as a utility --

MR. LANGENBERG: That's true.

DR. HARRIS: -- to demonstrate that we've purchased and sold to one purchaser renewable energy.

MR. LANGENBERG: Exactly. So what I'm saying is that whomever you're purchasing the power from, that generator has to provide you with evidence, conclusive evidence, that renewable power is indeed renewable, correct?

DR. HARRIS: I believe we've asked for that up to now, yes.

MR. LANGENBERG: Fine. That's my point. I'm just restating the obvious, okay?

Now what does that have to do with the environmental attributes? What I'm saying is when I started this, is I can't really see why we can't just unbundle, completely divorce the environmental attributes from the power.

If I'm a generator, I sell you renewable power. Here it is, I have this particular plant set up. This is certified, it's a renewable power. I sell you the power.

I sell the staff, or whoever wants to buy it, the environmental attributes. If no one wants the environmental attributes, fine, I'm stuck with them.

But the point is really the electrical power can be easily certified and easily quantified. My point is why do we have to bundle, why do we have to include the energy credits with the power.

The second thing is with the energy credit, if we were to market them at today's market values, we could probably drop the price of the power. I'm sure we could, provided we had a market for the attributes, for the RECs, renewable energy credits, only the energy credits.

PRESIDING MEMBER GEESMAN: Okay, we've covered this ground before. Let's try and move on to a new wrinkle on this topic if there are any.

MR. HOFFSIS: Any other comments on question 3? And is there anyone on the phone?

Yes, Randy.

MR. HOWARD: I would like to just make a comment concerning the white paper and the discussion concerning publicly owned utilities may decide to purchase unbundled RECs from large hydroelectric power possibly from the IOUs who are prohibited from using large hydro in their RPS programs. And then maybe reselling our renewables that do qualify.

And I think that's really addressed in Senate Bill 1478 which -- just passed the Senate floor. And I think that is a reasonable mechanism that if you're going to participate in this market, you would abide by definitions established for all the other participants.

I only see that LADWP has any difficulty with that. But there are other ways to put protocols in place. And I just don't see this as an issue -- public comment.

PRESIDING MEMBER GEESMAN: Do you have a vote total on 1478?

MR. HOWARD: Yes, I do. Forty-four to one.

PRESIDING MEMBER GEESMAN: Okay.

MR. HOWARD: No, I'm sorry, I (inaudible) see the 144 --

PRESIDING MEMBER GEESMAN: Thank you.

MR. HOFFSIS: Does that conclude question 3? Yes, one more.

MR. PRETTO: Mike Pretto, Silicon Valley Power. I can't resist commenting on the last comment, which is we're a utility that currently meets and actually exceeds the 20 percent standard for eligible renewable, and when you include large hydro we're way up there.

You know, we read that part of the staff report, one of the things that drives us is that our public officials and our customers are quite happy that we exceed those standards, quite happy that their standard retail product contains a very high fraction of take your pick, eligible renewable and total renewable.

They have no interest in seeing us sell those off into the market. They want to keep it for themselves.

So if you have it, and at least in our instance we have every intention to keep it.

PRESIDING MEMBER GEESMAN: And my suspicion is most of the other utilities do, as well. I think it was an interesting hypothetical raised in the white paper. But, I would doubt very seriously if people's customers would allow that once it was discovered.

MR. HOFFSIS: All right, last call on question 3. Any more comments?

Otherwise, I think we are ready to go to question 4, Barriers to reaching 20 percent by 2010. If there is anyone in the audience who would like to join the roundtable or anyone here at the roundtable who does not participate then we can swap seats. Otherwise, let's launch into it.

Yes, sir.

MR. GULIASI: Les Guliasi with PG&E. I'm going to be very brief here because some of the remarks I'm about to make I've made previously in other workshops including the transmission workshop a couple days ago.

But I think the staff report does a good job of identifying some of the key barriers. Certainly the transmission barrier is important. Some of the work you've done already in the transmission report identifies some steps that you could take.

I mentioned the other day the help that the Energy Commission can lend by taking a leadership role; working with federal and other state agencies to identify what lands might be needed, what transmission corridors might be needed.

And to the extent that that information gets put forward on a timely basis, we in the utilities can then move forward with our part of it, which is to file for CPCN. Again, these projects are lead-time projects, and we need to get going right away.

Also in the transmission area, as well as the entire RPS process, and procurement process, there's been this notion of least-cost best-fit. And I think that's just an important concept to make reference to in your reports. I think it's a very important principle that needs further elaboration or at least clarification, enunciation in your reports.

And finally, just something I mentioned earlier this morning. We still suffer from the overhang of the DWR contracts. And clearly those contracts will roll off all the time. But our solicitations, at least in the short run, and even in the medium run are going to be used to fill, you know, particular need, particular products for time of day, load shaping, whatever requirements we have.

So what I've said before in this forum is that to the extent that we, as a state, move forward to accelerate the goal we have to be mindful of where we're coming from. I didn't say this earlier, but each of the utilities came from a different starting point. And we're all going to have to move as quickly as possible, take into account our own unique circumstances and our own needs.

And I just think that the state policymakers should be aware of that, cognizant of that, and not overlook it in the rush to do the right thing, to do a good thing.

PRESIDING MEMBER GEESMAN: Les, I don't know if you were here at this particular workshop before, for the life of me I can't remember exactly when it was, Barbara Hale, though, for the PUC made the point that there is now a third category of transmission project recognized by the PUC.

The ISO tariff has contemplated reliability projects, has contemplated economic projects. Barbara pointed out that pursuant to SB-1078 there is a third category, transmission projects necessary to accomplish the RPS goals.

FERC, last year in its white paper on preferential rates of return, made clear that for a project to qualify for such a preferential rate of return it would have to be a part of an RTO-adopted plan. In California we've interpreted, perhaps somewhat hopefully, that to mean an ISO-adopted plan.

Do you think we need to change the ISO tariff in order to make clear that this third type of project will qualify? Or is the ISO likely to take these kinds of projects into account in its planning anyway?

MR. GULIASI: Well, I think the ISO will definitely take these projects into account. And I'm not sure we need to clarify or change the FERC tariff. I think we have some ways to go actually within California first to understand what we mean by this new third category.

I think we understand pretty well, based on, you know, a long history, practice and existing tariffs, what the other kinds of projects mean, reliability projects, economic projects. But this new term, this new category, I think at this point it's just kind of an artful term, a state of the art term.

I don't think it really has any, you know, codified definition based in the Public Utilities Commission, for example, or in legislation. I think it's just being used as a term of art so we can understand kind of a policy objective to move farther along the path of any renewables.

And I think it's encouraging that the Public Utilities Commission recognizes, you know, that there may be a need to enunciate something clearer, at least in a policy way if not in a kind of a more tariff-form way, to help utilities understand what might be needed so we can move these projects, you know, over to the ISO planning process. Back to the PUC for certificates. And then onward as we go to, you know, build the projects and then put them into the FERC ratebase.

MR. HOFFSIS: Bud.

MR. BEEBE: I need to be careful because to make it clear that SMUD is not part of the ISO, and we do our own scheduling. So I'm not in any way suggesting that I'm trying to fix the ISO's problems.

But in fora like this I think it's important that we sort of recognize that there's different transmission problems associated with the renewables. And some of them are not renewables problems. They're really statewide issues that really belong in the transmission areas.

And I think the two biggest ones, and

maybe we need to develop the right words when we talk about this stuff so everybody knows which page we're on, but one of them is opening up resource areas to get the power from these renewable resource areas to the existing transmission grid. Maybe it's type I or something. And the Tehachapi situation is a good example of that.

The other one is those transmission problems that are associated with path 15. And to a lesser extent, other congestion pathways.

But that second type, the type II type, that isn't really a renewables problem. It's another kind of a problem. And the extent to which we might, you know, load it all onto the renewables is probably not good.

There's a special one. Let me just mention this, too, and it's always good to look way down the tracks and see what we might need. And just thinking about this, we're always concerned about the north/south flow of electricity. But I just see a lot of renewable energy in Nevada.

MR. HOFFSIS: Steve.

MR. KELLY: When I think of renewables

and transmission I can't help get away from the paradigm that, you know, we have had, we are having, and I think for the foreseeable future we will have the chicken-and-egg problem, which is we're not going to build transmission unless we can prove there's a resource there.

The resource isn't going to bid unless the transmission's there. And that circle we keep going around. And the way the structure is set up, particularly at the PUC, it just fosters that kind of dialectic that reaches no conclusion and nothing gets built.

And I'll urge in this proceeding, because I guess it's different than the other proceeding, that we need a mechanism and consideration of alternatives to break through that log-jam. And whether it's in, what I would term, an independent system developer, transmission system developer, third-party development, or something that has to happen at the PUC in terms of their rules and regulations, which I know that this Commission has pursued, something has got to happen soon to break that through.

Because before we know it we're going to be two or three years down the road again, still trying to figure out what's the next piece of transmission we should build. And we will miss the 2010 compliance date because of the lack of access.

And that'll be compounded if we have a fully bundled system of RECs and everything. So that's my big concern. And I just think that we're right at the cusp now, where we really have to really do something to break through that. And urge this Commission's efforts to try to think that one through.

MR. HOFFSIS: Manuel.

MR. ALVAREZ: Good afternoon, Manuel Alvarez, Southern California Edison. We've been here before the Commission and I think we're all aware of what the transmission issues and problems are, and how we propose to address some of those issues during that discussion.

I guess what I just want to point out here, Commissioner, you mentioned this third proposal, this RPS need for the transmission project. And that makes a lot of sense. But it still doesn't solve the problem of how I get to a yes decision. Whether I can ever get to a yes decision on transmission expansion.

I haven't been able to get there on a reliability-based project. I haven't been able to get there on a economic-based project. So, the question I have is can I get there on an RPS-based project in the State of California. And to me it's still a difficulty.

I do want to point out that, you know, to the extent that I unbundle RECs I'm going to complicate that question because I'm going to be able to say, well, I can satisfy the RPS requirements with a transaction somewhere else. And defer or delay a transmission proposal. And that's something, I think, we have to put on the table and say is that what you want to have in the State of California.

But the way I see it now there's no way for me to get to yes. I can't see the pathway.

PRESIDING MEMBER GEESMAN: I think that's well taken. And as I think you know from having sat in on some of our earlier transmission workshops, we've attached a fair amount of significance actually to the way in which one of your company's staff, Pat Lyons, has framed the issue as really one of social choices.

And I happen to believe that we need to move our decisionmaking process, both on the transmission planning and on the transmission permitting side, to a more qualitative decisionmaking. Informed by the best quantitative information we can gather, but not one where we simply input assumptions into a black box model and expect the computer to spit out a yes or no.

I guess you don't feel that you've gotten a clear enough "we promise to say yes" on the Tehachapi decision from the PUC. Because as I understand the litigation that your company has brought, it is a product of doubt on your part that you will ever achieve cost recovery either under FERC's wholesale tariff, or from the PUC's retail regulations.

And without getting into the legal questions of that, am I correct in assuming that in your view the developer pays for the upgrade, you're obligated to reimburse that developer with the interest over a five-year period for his expenditure?

MR. ALVAREZ: That's my understanding, Commissioner. But I can check that for you.

PRESIDING MEMBER GEESMAN: I guess the

frustration I feel is trying to put the hat that I wore for a long number of years in private practice on. I think that translates into an investment banker's ability to lend money to the developer, perhaps through the infrastructure bank or whatever Mr. Kelly wants to propose in the structure and be repaid on the basis of your credit.

And I don't understand -- maybe the profession has changed since I was in the business, but there used to be guys that would flock all over that and spend a fair amount of time trying to put that transaction together.

I don't quite see where the chicken-and-egg problem is.

MR. ALVAREZ: Not being part of the investment banking community, so my sense is that there's still people who will flock behind a particular financing of any particular project assuming the credit support is there.

We've just come out of an era in which the credit support wasn't there for any kind of projects. And the sustainability of California's regulatory system is, in fact, part of that equation. And so that's part of the debate.

Where are we in the State of California with market structure and regulatory certainty. And can you --

PRESIDING MEMBER GEESMAN: Well, we're all body builders now, and we intend to have a stronger approach.

(Laughter.)

PRESIDING MEMBER GEESMAN: I know at times that's different than your company's instincts, but I think you'll see quite a bit more steadfastness going forward than you've seen in the past.

MR. ALVAREZ: I will look forward to that.

PRESIDING MEMBER GEESMAN: I'm sure you do.

MR. HOFFSIS: Steve, another comment? Steve Munson.

MR. MUNSON: I'd like to point out that the circle is a lot smaller circle that we're starting to spin in now. I am aware of bids that have went in where half the product has been as a real product, and half was as an option because of the transmission constraint. And because there had been no decisions coming forth from the bodies above the workshop process to tell us that this is going to get built and that's not.

And I think that -- I know that many people that I know in all my business are waiting for those kinds of decisions. And I believe that there are five to eight constraints in this state that have existed for many years. They're not the cause of the renewables, guys, they need fixed for the system, and grid good, not just the renewables. And they need some direction.

And I think the utilities are guys saying the same thing. Down at the staff level I don't hear the utility guys saying we're not going to build this, or we're not going to do that. They're going to say we don't think we can build it, we don't have the direction and we don't know if we can get the money.

Really appreciate having that direction set.

PRESIDING MEMBER GEESMAN: I think, as you know, you're preaching to the choir here. And unfortunately, at some point we've got to stop talking to each other in agreement and actually move on.

MR. MUNSON: I'd just ask that it's not

probably not that tough a decision at all.

PRESIDING MEMBER GEESMAN: I don't think so, either.

MR. MUNSON: You say, okay, we want a lot of renewables; we've got Tehachapi that can do this much; we've got others that can do that much. We'll take the risk; we'll build this transmission line when it's only 30 percent loaded under existing contracts or something. Go do it, it's not going to bankrupt the state.

MR. HOFFSIS: Anyone else? Anyone on the telephone on this question? Bud.

MR. BEEBE: Just a follow-on that it wouldn't bankrupt the state to provide that transmission through maybe many different ways. But it might bankrupt the state if we don't have the power available when we need it. And where we need it.

PRESIDING MEMBER GEESMAN: There are people who have gone through blackouts in the last several years, or several years ago, that can directly point to where some of those problems have been created.

MR. MUNSON: May I speak on finance for one moment? Commissioner Geesman, I encourage you and the other members of your panel to show up at each and every finance conference that Wall Street wants to hold on this topic.

Most people wouldn't know, I guess, that you went back to the NACOR renewable finance conference just a month ago or so on Wall Street. And it was far and away the largest finance conference ever held on renewables. It dwarfed anything that was done back in the ISO4 days.

And I'm speaking now to your question of, you know, are these projects going to get financed. They're renewables and they will. In part because of what you said, and because of the general interest. These projects are going to get financed, and there's going to be a number of small companies that will become big companies. And then the big companies will become bigger.

Wall Street is engaged in this sector. And if we can get our transmission problems solves, perhaps with the help of Wall Street, we'll get these projects built. A lot of people will go forward. There is real interest. And I just encourage you to show up and talk about what's going on in California at every conference of that type.

PRESIDING MEMBER GEESMAN: I think that's an important function for us to play. Jack.

MR. PIGOTT: Jack Pigott with Calpine. Since you're talking about finance I thought it was interesting earlier today, the fellow from Edison, as he was responding to your question about why the contracts hadn't been signed for the second solicitation.

And one of the issues that he raised was credit. And it interests me that back when the standard offers were out there, the only credit anyone ever had to put out to build the project was $5 a kilowatt.

They put it out; a number of projects didn't get built, but an awful lot of them did get built. And have operated for almost two decades.

For some reason, it probably has to do with Enron and a couple of other things, power trading fiascos, everybody seems to care about credit now. And most of the new projects that we're talking about building are going to be project-financed. They, themselves, have no credit; they're going to have a power contract, a wheeling contract, a construction contract, a site lease, stuff like that.

And to add the burden of having to put some kind of 20-year operating security or some other thing like that, and increase the costs and it greatly increases the barrier to entry.

I mean I think it's probably a short-term issue that may be resolved in a couple of years, but since we're looking at reaching 20 percent in a couple of years, I see it as a barrier.

PRESIDING MEMBER GEESMAN: Bud, how did you guys approach credit questions on your recent solicitation?

MR. BEEBE: We did not ask for -- we did not require specific threshold levels. We required that people disclose to us sufficient information so that we could make judgments about that.

And the process is expected to go to really two stages. There's some questions that are going to come up. And then there's a negotiation phase. And that's where the credit piece really gets wrung out. But we just ask them to be open and honest with us in the first stage.

PRESIDING MEMBER GEESMAN: Now, I'm

inclined to think, Jack, that the RPS process at the PUC may not have gone far enough in an attempt to standardize the terms and conditions of the contracts. But, it was the consensus of the parties that what they were able to agree on was sufficient to move on now.

I think we should revisit these credit questions after the first round of solicitations and see what can be improved upon.

MR. HOFFSIS: Other comments? We have spent primarily the bulk of the time here on question 4(a), actually on transmission and financing issues. Does anybody have any specific comments on 4(b) which has to do with mechanisms to place a project that may be delayed? Bud.

MR. BEEBE: If we do a good job in getting to the 20 percent and are still accelerating, we really don't have to worry about this 4(b) question.

MR. HOFFSIS: Anyone else? If not, I believe we are ready to move to a different category of questions, questions on chapter 5 in the white paper.

And I'm sorry, was there anybody on the phone before -- okay.

Questions on chapter 5, Key policy issues for distributed generation, photovoltaic energy systems. Again, perhaps, take a moment or two to swap seats if there's a different cast of commenters.

And I think we'll proceed the same way we did before, since there were a number of subparts to the question. Rather than marching through each and every subpart, we'll just take the general topic and comment as you will. But to the extent that your comments are specifically directed to a specific question, identify that question.

Are we ready for comments on performance-based incentives?

MR. GULIASI: Let me step up and see if we can get this going. I think we're suffering from exhaustion. For me it's been two days. So, --

PRESIDING MEMBER GEESMAN: I heard there's a solar bill being -- today, so that may be where much of our audience is.

MR. GULIASI: You think that's where all the interest is. Maybe that's a good thing.

We provided some comments in the

previous workshops on this, but I think there are some advantages for paying an incentive on the kilowatt hour energy produced by photovoltaic systems.

First, it provides an incentive, incentives provide an incentive -- how do you like that -- to owners so they can monitor their systems, maintain their systems, and operate them as they're intended to be operated, so their performance can provide, you know, power for a long period of time.

I think that kind of performance-based system will insure that the ratepayers do get the benefits that they deserve to get.

In addition, to the extent that you pay an incentive might provide owners to look around and shop in a smart way for the best value system when they purchase a PV system. So people need to look at the cost of installation; you know, the price of the product; how it's going to perform; what kind of warranties. So I think that just provides a greater incentive to the market.

Again, what we've seen in the past is that once these systems are installed there may not be an incentive for the owner and the operator to maintain them, to leave them in place. So to the extent that payments are a payment screen that's tied to performance, we have a better chance of having the system in place for a longer period of time, again to deliver the benefits that they're intended to deliver.

I think, though, while incentives have a lot of positive features, there are some cautionary remarks. You have to be very careful to insure that the costs of the systems and the ongoing maintenance costs are appropriately priced.

I think, you know, the initial purchase price may be a very high hurdle for some to clear. And those initial high capital costs should -- or let me say it the other way around -- the rebate and revenue stream needs to match the initial, you know, high cost of some of these systems.

We have to take into account any kind of loan programs that customers may have so they can afford to buy these systems. And I think that pretty much concludes what I have to say about the incentives.

PRESIDING MEMBER GEESMAN: Is there a business role for your company in this area?

MR. GULIASI: Well, in terms --

PRESIDING MEMBER GEESMAN: Should there be?

MR. GULIASI: -- of what? In terms of --

PRESIDING MEMBER GEESMAN: Moving us to a performance-based set of incentives, making certain that the owners or operators of the equipment do have a motivation to see that the system is properly oriented, properly operated, properly maintained?

MR. GULIASI: I think our first primary concern is to insure that there's the benefit that goes to the ratepayers for, you know, for the costs of the systems.

Beyond that --

PRESIDING MEMBER GEESMAN: You're probably best situated though to assure that, aren't you?

MR. GULIASI: Well, beyond that, I really don't think my company wants to get involved with, you know, warranties, you know, insuring that systems are operating appropriately. I think --

PRESIDING MEMBER GEESMAN: You think my

agency is better situated to do that?

MR. GULIASI: No. I don't think that either the California Energy Commission or the utilities should be put in that role. I think really this is a role for the market.

I know there's always been this debate about what role the utilities want to play with respect to getting on the customer's side of the meter. And there's a lot of resistance to moving too far across that line into the customer's home, or across to the customer's side of the meter.

While I do recognize that many of our efficiency programs we, you know, kind of penetrate into the other side. But I think in this sense I think we want to be a little bit more cautious and just allow the market for this product to develop. And I think if there is a good market with responsible suppliers, the market can take care of itself.

PRESIDING MEMBER GEESMAN: Even at the pace that the Governor has indicated we should be moving?

MR. GULIASI: The what?

PRESIDING MEMBER GEESMAN: The pace.

MR. GULIASI: The pace?

PRESIDING MEMBER GEESMAN: I mean this is a big, big, big scale-up that's being contemplated. Whether this legislation passes today or not, you know that the subject's going to be back in front of us in another few months. Isn't this a job really designed for a company of your scale?

MR. GULIASI: I don't think scale really is the issue. I think, you know, being big doesn't give you all the kinds of expertise that you need to do the job right. And, you know, I think -- and we struggle with what our core mission is. And our core mission really is to provide gas and electricity services to our customers.

I realize you can stretch that definition. And you can go in, you know, all sorts of directions. But I think you have to draw some lines somewhere, and, you're right, the Governor's very ambitious. But I think until we really see what that legislation looks like, if indeed it's going to pass, I think we ought to reserve judgment.

There's just too much in flux. And I think this is something that if we go into this field, we'll go into it very, you know, if not reluctantly, very carefully.

COMMISSIONER PFANNENSTIEL: Well, I have a slight -- I just had a slight variance on the question. It does seem to me that performance-based systems or incentives would really promote energy efficiency in these homes. That you get the best performance, I would imagine, with the most efficient homes.

And that does bring in the utilities because of the role that you play in energy efficiency. Have you thought about how to marry those two? How to make sure that the homes that are getting the solar installations are the most energy efficient, maybe beyond the existing standards?

MR. GULIASI: Well, one of the things that it talked about in the legislation is, you know, again mandating photovoltaics on new homes. Now new homes meet the current CEC standards.

So I think here what we're really talking about in terms of a kind of a statewide benefit is the marriage of the most efficient, you know, homes with all the efficient appliances and in compliance with all the building standards.

And the possibility of, you know, reliance on fossil fuels.

We haven't given a whole lot of thought, at least that I'm aware of, as to how our energy efficiency programs could be combined with, you know, more solar homes. I think that's certainly a topic that we need to explore.

As part of our overall interest in promoting renewable energy, we're looking at what we need to do in the way of solar programs. I think I mentioned before in this forum that PG&E is working with school districts to fund photovoltaic systems for schools. Much like the program that you have. And, in fact, I have talked now to several staff people at the Commission here about partnering our program with your program.

Our program also has an educational component that we might be able to bring forward and complement your program.

But back to the original question, we haven't really given a great deal of thought about how those two features can work together. But I think there's obviously some opportunity. I just don't know exactly what that would look like.

COMMISSIONER PFANNENSTIEL: I would like you to think about that, both in terms of the question here about performance-based incentives, but I think also in terms of the question that Commissioner Geesman asked about scaling off going forward, and what you could do with the existing or perhaps enhanced efficiency programs that you currently have.

MR. GULIASI: Okay. And I think part of that thinking would just be for us to clearly delineate the responsibilities that we would have and what would make business sense for us. You know, where we have the expertise and, you know, what kind of competence we have. Beyond that, you know, I think is some -- I'm not sure where to draw that line, but I think there might be a line to be drawn. So that we can stick to what our core business is. And, you know, assist our customers without doing something that the market might do, itself.

COMMISSIONER PFANNENSTIEL: I don't know how much you spend in a given year on residential energy efficiency programs, but I know it's a fairly large number. And I'm suggesting thinking about those funds and those programs in terms of this emerging program.

PRESIDING MEMBER GEESMAN: You guys had a support with amendments position, I believe, on the legislation yesterday. I also think you may have been the only one of your industry that favorably inclined. Am I right in that?

MR. GULIASI: I'm not sure if we were the only ones, but you're right in that we did support -- there were a couple different bills in play. And we have, you know, some preferences. But, yes, indeed, we wanted to work with the author to insure that some of the concerns that we had about the bill would be improved.

We wanted to make sure there was no cost shifting as a key principle and some other things. but, indeed, we see this as a very important step. Not only as a business opportunity, but certainly, as I mentioned earlier today, there is a healthy segment of our customer base that wants our utility to be more engaged in renewable procurement.

And so we think that we're addressing, you know, the will of our customers by trying to get out in front of this and be a constructive force on this important legislation.

PRESIDING MEMBER GEESMAN: I think that's commendable. I guess the last thing I'd say on it is it would appear that the state is going to continue a net meter provision for most, if not all, of these installations.

And I think that gives you a particular stake in this question because in essence all of your customers, through that net metering provision, are assisting each one of these installations.

And I think that you ought to feel a certain constructive trust in that regard in making certain that money is well spent, the program is well designed. and I would strongly encourage you in the months ahead to try and figure out a good long-term business role for your company in this area, as well.

I don't think we're going to meet our targets that the Governor has set without your involvement.

MR. TUTT: Les, in terms of a performance-based structure, we're really talking about metering or otherwise estimating the output of the system, and then some kind of periodic billing or providing of incentives for that.

And to me that's more of a nexus of scope with your company, as opposed to scale. You're already reading meters and already submitting bills to customers. So, can you comment on the nexus of scope there with the performance-based system?

MR. GULIASI: I need to think about that a little bit more. I'm just not really well prepared to give you a cogent answer. So, if you don't mind, let me just think about that one.

And, again, I'm still struggling with the issue of, you know, scale. Maybe that's clouding my thinking about the scope. But let me give it some more thought.

MR. HOFFSIS: Manuel.

MR. ALVAREZ: Commissioner, I guess on that particular issue, and Tim, it goes to the question you're asking, there's always a scope benefit whenever you're interacting with a particular customer or a customer class in terms of delivering services to them. So, there's definitely some benefit there that one has to weigh.

There's also the other issue of liabilities, once you went on property, people's roofs, and whose responsible, et cetera. So those are things we also have to take into consideration.

For the Commissioners' benefit I think this question of what the role of the utility is in the PV sector, and the role as a regulated entity, I think the only data point you have is the last year's distributed generation proceeding at the Energy Commission, where, at least from Edison's perspective, we preserved the option to own distributed generation on the customer's side of the meter.

But in that proceeding and currently, you know, we've indicated that we have no business plans to pursue that course, either to sell or install or operate distributed generation. But we did want to preserve that option for some time in the future.

And I guess the next thing I'd say is I'll take your advice under here and look for the question of what the business option is, but I'm not optimistic I can get you an answer in a couple of months.

PRESIDING MEMBER GEESMAN: Yeah, and I wouldn't expect you to just rely on me saying it.

But I would encourage you to pursue this with this Commission and with the Public Utilities Commission.

I was aware that you'd preserved that option. And I think going forward it's something that you truly ought to pursue. A very large number of your customers, particularly it would appear the new construction sector, are going to end up with these things on their rooftops.

And like it or not, there is going to be liability associated with that. I'm not certain that there's a better or more economical way to, in essence, insure against that liability and through the utility.

I think you ought to be adequate compensated for that. I think that you ought to think through some creative business opportunities, as well. It's hard for me not to see this as simply power plants on the rooftops.

And I read the newspaper; you guys are interested in owning power plants.

MR. ALVAREZ: Duly noted.

COMMISSIONER PFANNENSTIEL: Well, and in fact, when energy efficiency, I don't know, 10 years ago, 15 years ago, was everybody was searching for the utilities' role in that, and I believe the utilities have made a fairly good business out of the investment in energy efficiency.

So there are probably some creative ways to think about it.

MR. HOFFSIS: Jane.

MS. TURNBULL: I'm just delighted with this conversation so far. I concurred with almost all of Les' comments, and was really pleased when he talked about this being a business opportunity.

Then all of a sudden he pulled back.

MR. GULIASI: It's a business opportunity for somebody.

(Laughter.)

MS. TURNBULL: I think it could be for the utilities. Or utilities could certainly work in collaboration with somebody else to make it a business opportunity for them.

I think the one area that hasn't been addressed in this conversation are the system benefits that can come from distributed generation. And I think that is a place where the utilities definitely have a role and ought to be looking at this from that perspective.

And we certainly concur with all of this conversation so far.

MR. HOFFSIS: Dave.

MR. HANSEN: Doug Hansen, San Diego Gas and Electric. Just a few comments. One of which is it seems to me there might be a tension of goals that is probably readily apparent to everybody, but I'll say it, nonetheless.

And that is in working with photovoltaics your goals can be get the maximum tonnage of panels on roofs, or it can be get the maximum megawatt hours out of the tonnage you have or might get.

Being an employee for a period of time now at an electric utility amongst gas, the goal seems to be to one I would tend to want to weigh a little more heavily towards getting megawatt hours, actually getting production, to offset the production that would otherwise have to come from fossil fuels or other sources.

Now I'm not saying that you have to be all one or the other, but right now the way the goals or the incentives are set up, it appears to me to be a wee bit lopsided. And it would behoove us to have, I think, a time-of-use incentive on a kilowatt hour basis incentive, timed so that the prices are higher in the afternoons when we're peaking, not at the midday, but afternoons when we're peaking, that would encourage customers to actually take care of their equipment.

Several years ago we had 34 units go in. Not a single one is operating because they couldn't find it in their heart to spend the money to keep the things operating. Trim the trees that might start shading the cells.

I think you know the litany of things that can go wrong over time. And customers, if they have some clean, clear signal that's a price or bill signal, can respond to it.

Net energy metering, I would contend, does very little for the owner to maintain units. There's no transparency for the owner to see what's happening to their bill. It's hidden. It's not hidden out of intent or malice, it's just hidden. That is the nature of net energy metering.

I would suggest that you really need to look at the incentives that you have relative to the goals you're trying to achieve. Yes, it's nice to have the tonnage of panels at some point to kick-start something. But a more maturing market, a more maturing effort, to me, seems like you want to move towards the keep the power coming out of it, keep it producing, keep it optimally designed.

To me the process of moving towards an incentive that is performance based would be one that would ultimately move towards more efficiency in both production of the units, installation, every part of siting that goes with that, than if you stick with tonnage.

I think that basically wraps up my comments.

PRESIDING MEMBER GEESMAN: I couldn't agree with you more. And I guess I would diagnose some of the reason, actually much of the reason why we've gotten to where we are today, as inadequate involvement of the utility industry and inadequate attention or voice of the energy types in the governmental process in structuring this program.

The widget people have been in charge. And the focus has been getting widgets on top of rooftops. And I think even a large state like California can only afford that to a certain extent. And I think we've come to the end hopefully of that point in time, and are ready, under the Governor's leadership, to pursue this to a more substantial scale of development.

But I think it will involve, of necessity, more of an involvement in the utility sector than you guys previously have been able to provide.

And more attention on our part to some energy considerations that I think that we've been a little bit too casual in reviewing.

MR. HOFFSIS: Bud, comment?

MR. BEEBE: Yeah. From SMUD's perspective, certainly we advocate going towards a performance-based incentive set of programs. But we'd just caution that you're going to have to be careful about the transition; don't want to make it too quick. We've got something that's working now; we don't want to kill that obviously.

And it may well be that we'll need to have a couple of different kinds of incentive programs. The idea of raising all that capital up front, how quickly it has to be paid off, and how that's done. Who do you approach. Those are all things that need to be considered.

And we're just really happy that everybody's talking about this openly. So let's get on with it. That's a very good thing to do.

And as we do that, and this points to 5(c), the purchasers are a very important piece of this and will be connected to it, in any case. But as we've learned in the energy efficiency programs, you have to put a lot of focus upstream of the ultimate consumer in order to be able to make real inroads. Because the concentrative factor of the retailer or the concentrative factor of the manufacturers is very very important in this.

The purchaser, the consumer in this case has to have available to them systems, whole systems in this case, that are really capable of delivering high quality of long life, high efficiency. So that's just our piece on this.

One other little guide, and that is it seems to the people in our PV area that maybe the utilities, they're looking at utilities everywhere, not just SMUD, maybe the utilities haven't been able to get enough out of these PV programs. Maybe they just haven't seen the piece that, you know, they can call their own. Maybe that's the reason that others haven't been really into it.

And we maybe can begin to look for places. One of the questions is who owns the RECs. Does it belong to the people that own the system, or does it belong to the system to which it's hooked up?

And since I own a system, myself, pride of ownership, I want to hold those things. It probably does belong to the distribution utility.

So those are our comments.

MR. HOFFSIS: Other comments on question 5, performance incentives? Anyone on the telephone?

Shall I move into question 6, PV in new homes. Any comments?

MR. BEEBE: This was written before last week.

MR. HOFFSIS: Yes.

(Laughter.)

MR. HOFFSIS: I think that pretty much says it all --

(Laughter.)

MR. HOFFSIS: -- on this topic. Sorry. Randy.

MR. HOWARD: Randy Howard, LADWP. Just a comment. And that's for especially us in the public utility side of the house, is that we're constrained within our service territory. We don't have a lot of new homes or tract single family dwellings going in anywhere, moving in the more high-density type of residential homes, and lots of commercial.

And we do have to consider that any programs involved really have to consider those opportunities for commercial. We have substantial commercial solar within our territory.

And we're finding more and more of those types of businesses are willing to put their money up and stand behind environmental policy. And we need to be sure that we include those, as well as retrofits in existing homes. We cannot exclude those, especially for territories like ours that we have a plentiful or a bountiful amount of sun and very little new housing going in.

PRESIDING MEMBER GEESMAN: I think that's very well taken.

MR. HOFFSIS: One question to you, perhaps, since you had information on SB-1478 awhile back. The other thing current on 118.

MR. HOWARD: 199 failed, and I do not have the information yet on the other.

MR. HOFFSIS: Thanks.

MR. GULIASI: I just have two brief comments. Just remind everybody that the PUC has, you know, the proceeding going on. And you're involved in it.

One of the important things that they're looking at there is the costs and benefits. And, you know, just another cautionary remark. Before we rush forward let's see what comes out of that proceeding to understand what the costs are, as well as the benefits. Many of which may not be easily quantifiable. There are many benefits, but let's just take a careful look at the costs.

And finally, there is one thing that maybe you could help with. This notion about ownership of the renewable energy credits, who should get credit. It's not an easy question. And it's easy for a utility to say, in a greedy way, that the credits should be ours.

But one basis for making that statement, or making that argument, is that, again, it's kind of, generally speaking, a ratepayer funded project. And what would an individual homeowner do with, you know, a little credit. I mean it would probably do them no good whatsoever, except what they'd get from feeling good about having it.

So, I think it's our position that renewable energy credit would best be served by the load-serving entity having possession of that credit.

And we also think that part of the renewable distributed generation unit could count toward meeting the renewable portfolio standard goal. And that's something that you, the Energy Commission, believes is a worthy position. I think your report could reflect that notion. And I think the California Public Utilities Commission would hear that remark.

MR. HOFFSIS: Doug.

MR. HANSEN: As far as the REC is concerned, we, SDG&E, would also agree that it would be appropriate for the utility, on behalf of its customers, to receive the benefit of the REC to the extent that a premium price is paid to the owner, as compared to normal market prices.

So if normal market prices for generation is in the 5 to 6 cent range, and the combination of all incentives supported by ratepayers is greater than that, then the REC should flow to the benefit of having the utility meeting its RPS goals. And to the extent that the utility can do something with that REC to reduce costs to the customers, then it's appropriate for that to happen.

MR. HOFFSIS: Further comments on this topic? Telephone, anyone on the phone?

So we move into question 7, net metering caps. Manuel.

MR. ALVAREZ: I guess, you know, on your chart this morning when the staff presented the chart on the status of the net metering, there's still a lot of room in the Southern California Edison territory.

So fundamentally we'd suggest there's no need for any adjustment. But that issue may be beyond us here.

COMMISSIONER PFANNENSTIEL: Manuel, how much -- do you have any idea what it costs if you go from a half percent to 1 percent, to 1.5 percent? What are we talking about for a cost of something like that.

MR. ALVAREZ: No, I don't think I have that cost off the top of my head, but I could probably get that. And that's part of the debate as to how much revenue is going to get lost and how much of this project will get built. So that's a calculation I think I can get for you.

COMMISSIONER PFANNENSTIEL: Precisely so, thank you.

MR. ALVAREZ: Okay.

MR. HOFFSIS: Bud.

MR. BEEBE: Yeah, it's really a practical question, I think, for utilities. And whether it's a half percent or 1 or 5 percent on the capacity for the whole system is pretty arbitrary and immaterial.

Because the real question is whether you could have a difficulty at the distribution level. And rule 21 has got stuff that's supposed to protect against that. And we certainly don't want the net metering question to be given over to the rule 21 process for that. We don't need those additional charges and problems and special studies. So let's not do that.

But, maybe shift it away from this artificial thing of a percentage on the capacity of the overall system, and down to the capacity of a feeder. And maybe it's like 50 percent or something like that. But just make it an arbitrary reasonable item and let it go at that.

MR. HOFFSIS: Doug.

MR. HANSEN: It seems that as SDG&E, anyway, is approaching within a few years of when it reaches the one-half of 1 percent, that there is opportunity for this Commission to consider recommendations relative to a transition to performance incentives, at least within SDG&E's service territory, to the extent that's appropriate.

What I'm saying here is that rather than going forward with let's just try to stick with the same concept of if you get net energy metering, if XYZ condition is met, maybe the half, 1 percent cap is the right cap for tonnage of photovoltaic cells, where you incent it on a $1 per ton basis.

Now might be the time to transition and look at other alternatives. And recommend those alternatives that you come up with on a per kWh basis, perhaps time-of-use basis. Move towards an improved approach where you're getting more of what you really want. Which I think is kilowatt hours, but I could be wrong on what the goal is.

MR. HOWARD: Just a little different take. Los Angeles Department of Water and Power was exempt from AB-58, the net metering. We do have a net metering program in place. We have no caps established, nor are we concerned at this point about hitting a cap or some of the issues of the cap.

I do have a little different take, though, on incentives, because we are moving ourselves from an incentive based on tonnage installed to a performance-based incentive. And that's because of just discouragement with the number of the systems that were installed within our system that we have incentivized.

We want to insure that we're properly utilizing our ratepayer funds to incentivize those systems to get out what we expect to get out.

One of our other concerns has been the desire of some residential customers to install very large systems on their homes, far exceeding what they might be able to use. And trying to then, thinking that they're going to gain somehow financially in this endeavor.

And that's probably not a good position for us to be in, as well, using other ratepayer funds on a single family dwelling that exceeds what their usage is going to be.

So we're trying to balance those things out. And it is a learning situation. But we have moved to performance-based incentives, ourselves, and we'll continue with the net metering rate structure.

MR. HOFFSIS: Anyone else? Anyone on the phone? I think we are closing in on it here. Commissioners, closing comments?

PRESIDING MEMBER GEESMAN: It's been a full day and I want to thank everybody for participating in it. We've got a pretty rich transcript.

We will attempt to address the issues that we think are most important for the Committee report on the 15th. We may very well end up addressing some of the other issues in other proceedings.

But I think everything that has been raised here today will be something that we take up in one fashion or another over the next several months.

So, again, I appreciate your contribution and certainly want to thank you for your participation.

Any of my colleagues have anything to say?

COMMISSIONER BOYD: No, just thank you.

COMMISSIONER PFANNENSTIEL: No, thank you.

(Whereupon, at 3:38 p.m., the workshop was adjourned.)

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CERTIFICATE OF REPORTER

I, ALAN MEADE, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 30th day of August, 2004.